the exchange value of the rupee to 1*s*. 4*d*., and then introduce a gold standard (though not necessarily a gold currency) at the rate of Rs. 15 = £1. This policy has been completely successful. From 1899 onwards the value of the rupee has been maintained, with insignificant fluctuations, at the proposed rate of 1*s*. 4*d*.; and consequently since that date three rupees have been equivalent to two rupees before 1873. For the intermediate period, between 1873 and 1899, it is manifestly impossible to adopt any fixed sterling value for a constantly changing rupee. But since 1899, if it is desired to convert rupees into sterling, not only must the final cipher be struck off (as before 1873), but also one-third must be subtracted from the result. Thus Rs. 1,000 = £100 $-\frac{1}{3}$ = (about) £67.

Another matter in connexion with the expression of money statements in terms of rupees requires to be explained. The method of numerical notation in India differs from that which prevails throughout Europe. Large numbers are not punctuated in hundreds of thousands and millions, but in lakhs and crores. A lakh is one hundred thousand (written out as 1,00,000), and a crore is one hundred lakhs or ten millions (written out as 1,00,00,000). Consequently, according to the exchange value of the rupee, a lakh of rupees (Rs. 1,00,000) may be read as the equivalent of £10,000 before 1873, and as the equivalent of (about) £6,667 after 1899; while a crore of rupees (Rs. 1,00,00,000) may similarly be read as the equivalent of £1,000,000 before 1873, and as the equivalent of (about) £666,667 after 1899.

Finally, it should be mentioned that the rupee is divided into 16 annas, a fraction commonly used for many purposes by both natives and Europeans. The anna was formerly reckoned as $1\frac{1}{2}$*d*.; it may now be considered as exactly corresponding to 1*d*. The anna is again subdivided into 12 pies.

The various systems of weights used in India combine uniformity of scale with immense variations in the weight of units. The scale used generally throughout Northern India, and less commonly in Madras and Bombay, may be thus expressed: one maund = 40 seers; one seer = 16 chittaks or 80 tolas. The actual weight of a seer varies greatly from District to District, and even from village to village; but in the standard system the tola is 180 grains Troy (the exact weight of the rupee), and the seer thus weighs 2·057 lb., and the maund 82·28 lb. This standard is used in official reports and throughout the *Gazetteer*.

For calculating retail prices, the universal custom in India is to express them in terms of seers to the rupee. Thus, when prices change, what varies is not the amount of money to be paid for the

same quantity, but the quantity to be obtained for the same amount of money. In other words, prices in India are quantity prices, not money prices. When the figure of quantity goes up, this of course means that the price has gone down, which is at first sight perplexing to an English reader. It may, however, be mentioned that quantity prices are not altogether unknown in England, especially at small shops, where pennyworths of many groceries can be bought. Eggs, likewise, are commonly sold at a varying number for the shilling. If it be desired to convert quantity prices from Indian into English denominations without having recourse to money prices (which would often be misleading), the following scale may be adopted—based upon the assumptions that a seer is exactly 2 lb., and that the value of the rupee remains constant at 1*s.* 4*d.*: 1 seer per rupee = (about) 3 lb. for 2*s.*; 2 seers per rupee = (about) 6 lb. for 2*s.*; and so on.

The name of the unit for square measurement in India generally is the *bīgha*, which varies greatly in different parts of the country. But areas have always been expressed throughout the *Gazetteer* either in square miles or in acres.

MAP

IMPERIAL GAZETTEER OF INDIA

VOLUME XXIV

Travancore State (*Tiruvānkūr*, *Tiruvālumkodi*, 'the abode of the Goddess of Prosperity').—Native State in political relations with the Government of Madras, affairs in it and the adjoining State of Cochin being controlled by the Resident in Travancore and Cochin. It takes its name from Tiruvankod (*Tiruvidāmkodu*) in Eraniel *tāluk*, 30 miles south of the capital, TRIVANDRUM, in ancient times the chief town of a small principality which subsequently grew into the present State. It lies in the extreme south-west of the Indian Peninsula, between 8° 4′ and 10° 21′ N. and 76° 14′ and 77° 37′ E. It is bounded on the north by the State of Cochin and the Madras District of Coimbatore; on the east by the lofty range of the Western Ghāts, beyond which lie the Districts of Coimbatore, Madura, and Tinnevelly, the line of demarcation passing along the summit of the Ghāts; on the south by the Indian Ocean; and on the west by the Arabian Sea. Its frontiers are thus defined by natural features on all sides except the north, where portions of the State of Cochin at several points intervene between it and the sea in the north-west. Its greatest length from north to south is 174 miles, and its greatest width, near the northern boundary, 75 miles. Its breadth is very irregular, gradually diminishing from the north and converging to a point at the southern extremity; the average width is about 40 miles. In shape, the State is triangular, the apex being at CAPE COMORIN. Its area, according to recent measurements, is 7,091 square miles. Of this, more than 2,500 square miles are covered with forests, jungle, and backwaters; and about 2,000 square miles by low chains of hills, a portion of which is available for pasturage.

The State is perhaps the most beautiful and most fertile area in all Southern India. It was thus described by Lieut. Conner in his report on the survey made at the beginning of last century:—

'The face of the country presents considerable diversity, although its general character, except the southern parts, is extremely abrupt and mountainous. The coast, for a short distance along the borders of

the lake [1], is generally flat; retreating from it the surface immediately becomes unequal, roughening into slopes which gradually combine and swell into the mountainous amphitheatre that bounds it on the east, where it falls precipitately, but terminates less abruptly on the south. The collected villages, waving plains, palmyra topes, and extensive cultivation of Nānchānad resemble in every particular the neighbouring province of Tinnevelly, except that it in no measure partakes of its comparatively arid sterility. Approaching northward this fertile plain is succeeded by the woody and rugged surface of the genuine Malayālam; some few champaign tracts enclosed within this ocean of forest relieve the uniformity of the sylvan scene. The extent lining the coast for its whole length presents a fertility so near the sea that it imparts a peculiar character to the landscape. This rich and variegated tract is flanked by a mountainous barrier, and is finely contrasted with the sombre magnificence and desolate solitude of those wilds of which the elephant seems the natural master; and though the landscape may be too much made up of this wild scenery, it boasts of many striking localities and peculiar beauties, if not of the sublime, at least romantic and picturesque kinds. The eye is arrested by the wild, rocky, precipitous acclivities and fantastic forms assumed by the mountains in the more southern parts; but proceeding north the bold and elevated contour of the Alpine tract is less sharply defined; a few rugged cliffs and spiry points or conical summits alone breaking through the sameness of its rounded and sombre outline. This Apennine dissolves into clustering hills and romantic inequalities, at whose feet wind innumerable valleys, presenting (particularly in the middle parts) the most delightful landscapes whose natural beauties are embellished and diversified by the prospect of churches and pagodas. Indeed, the endless succession of houses and gardens scattered in picturesque order over the face of the country gives it entirely a different appearance from the other coast, the nudity of whose plains is unfavourably contrasted with the robe of florid and exuberant vegetation that for a great part of the year clothes Malayālam. The areca and coco-nut everywhere fringe those picturesque and sequestered glens, which gradually expand into the extensive plantations and cultivated lands that skirt the sea and lake. This space is enlivened and fertilized by innumerable rivers and pastoral streams, whose borders are crowned with groves and cultivation that, everywhere, following their winding course, present a unique, interesting, and charming scenery, infinitely more diversified than most other parts of the Peninsula and one that would indicate abundance. This is especially the case in Kuttanād; the watery flatness of this fertile fen is relieved by the gardens and habitations so thickly strewn over its surface, which exhibits a network of rivers meandering through the verdure they create.'

Physical aspects.

It has been truly remarked that 'it will be difficult to name another land which, within so narrow limits, combines so many, so varied,

[1] That is, the line of backwaters referred to below.

and such precious natural blessings.' 'Where the land is capable of culture,' it has also been said, 'there is no denser population. Where it is occupied by jungle, or backwater, or lagoon, there is no more fairy landscape.'

The mountainous character of Travancore is due to the WESTERN GHĀTS, which flank it on the eastern side, and reach their highest elevation in the north-east of ANAIMUDI PEAK, 8,837 feet above the sea, the numerous heights clustering round this part being often termed the High Range. South of this group are the CARDAMOM HILLS and PĪRMED, where the land spreads out in a plateau of considerable width with hills running up to about 5,000 feet. For the rest of its length the range consists of a ridge at an elevation of about 4,000 feet, with isolated peaks, of which Agastyamalai and the Mahendragiri are the most important. From the main range of the Ghāts rocky spurs run out towards the west, in some cases to within a short distance of the sea. From Quilon southwards these secondary ranges soften down into undulating slopes, intersected by glens and valleys, which grow wider as the elevation of the hills decreases, and are very productive.

Owing to the mountainous character of so large a portion of the country, its rivers and streams are very numerous. They have generally a very winding course, and they empty themselves either into the backwaters referred to below or directly into the sea. A dozen principal rivers with their tributaries and ramifications intersect the country in all directions. The largest of them is the Periyār ('big river'), which is 142 miles in length. This rises in the Sivagiri forests, 60 miles south of Devikolam on the High Range, at an elevation of over 3,000 feet. From here it runs north, but inclining towards the west, until it reaches a point close under that range. Thence it turns to the west and plunges down between immense cliffs of rock, and after a long northwesterly course reaches Alwaye, where it divides into two branches, that to the north falling into the sea at Pallipuram and the other to the south emptying itself into the backwaters west of Ernākulam. The upper waters of this great river have been utilized by the PERIYĀR PROJECT for irrigation in the Madura District of Madras.

An interesting chain of lakes or backwaters extends along the coast from the northernmost frontier to Trivandrum. These are either expansions of the rivers at their mouths, or extensive sheets of water receiving the accumulated flow of several rivers and streams. They are separated from the sea by a bar of sand from 7 miles to about half a mile in width, but the rivers have several outlets by which they disgorge themselves into the sea. The flood-tides also flow over the bars into them and cause them to rise about 2 feet. These backwaters, of which there are more than a dozen, their total area aggregating 157½ square miles, are connected together by navigable canals,

the whole forming a water communication extending to a length of 200 miles. The largest of these are those of Kāyankulam and the Vembanād. The latter is 32 miles long and 9 miles broad, covering an area of 79 square miles. A few fresh-water lakes exist in the State, the two largest being at Vellāni near Trivandrum and Sāsthānkotta near Quilon.

Only the southern and western parts of the State have been geologically surveyed. The Ghāts consist of old crystalline rocks, which are splendidly displayed in the south. The lowest sedimentary rock is a grey fossiliferous limestone found round about Quilon, which is the only one of the kind yet known in the Presidency. From the fossils it contains, it appears to be of eocene age. Resting upon it is a series of variegated sands and clays, underlaid by carbonaceous clays or shales and lignites and capped by laterite, which is known as the Warkalli (VARKKALLAI) series from the village of that name not far from Quilon. There they form a line of cliffs on the sea face extending along the coast for a distance of 22 miles. Petrologically, they resemble the Cuddalore sandstones, and their colouring is often very beautiful. The laterite of Travancore, which occurs largely in a belt of country extending along the coast for many miles, is twofold in character. In places it is a superficial rock formed by the decomposition of the gneissic rocks; in others it is a true laterite formed of débris washed down from higher levels. The latter is typically developed in the neighbourhood of Kottayam, where it is largely used as a building material. Along the coast are white sand-dunes and areas of red sand or *teri*. These last stand high, though close to the coast, and are a well-known landmark for mariners. Westward of Cape Comorin are a few fringing reefs of dead coral. A phenomenon which has given rise to no small discussion is the remarkable mud-bank lying in the sea 6 miles south of ALLEPPEY. This is about 4 miles long by 1½ wide, and is affected by tidal action. It operates in a remarkable way to prevent the formation of waves; the soft oily mud mingles with the sea-water when the heavy ocean waves touch the bank, and so smothers their crests that the water inside the bank is quite smooth and forms an admirable anchorage. The supply of mud is supposed to be renewed by being forced out below the banks by the weight of the water in the flooded backwaters and streams of the mainland. Another curious point about this anchorage is that the amount of fresh water brought down by the streams and falling in the heavy rains of this coast is so great that it lies on the surface of the heavier sea-water to a considerable depth, and sailors can obtain drinking-water by letting down a bucket from the side of their ship into the sea around them.

The great differences which occur in the altitude of the State have naturally resulted in a large variation in its flora. Generally speaking,

the majority of its plants are those which love a warm and exceedingly damp climate. In the upper ranges of the Ghāts is found the heavy evergreen forest, and the principal trees here are referred to in the account of the Forests below. The low country is conspicuous for the masses of areca and coco-nut palms which abound in it, and another prominent tree is the glossy-leaved jack. In the rains every hollow is filled with a luxuriant tangle of vegetation, and ferns and mosses grow in profusion on every bank and wall.

The mountains and vast forests of Travancore afford admirable cover for large game. Elephants are numerous. Tigers, leopards, bears, bison (*gaur*), the Nīlgiri ibex, *sāmbar* and other kinds of deer abound. Snipe, duck, and teal are plentiful in the low country, and otters are often seen in the backwaters.

Along the coast the climate is equable and damp. The temperature seldom falls below 70° and hardly ever rises above 90°. At the foot of the hills the variations range to 5° or 6° on either side of these temperatures. On the hills the thermometer naturally varies with the altitude. On the High Range the climate is that of a temperate region, the thermometer falling to 50° or 60° in the daytime, and frosts at night being known in the winter months.

The rainfall is heavy. The greatest quantity, brought by the south-west monsoon, falls between May and August. Towards the end of October the north-east monsoon asserts itself, but the rain it brings is lighter on the low country than on the hills in the north-east, where it descends in sudden and very heavy showers. The Trivandrum Observatory is the only place in Travancore where accurate observations of meteorological phenomena have been made over any considerable period. They may be taken, however, as fairly representative of a wide area. The annual rainfall there averages 58 inches. On the Pīrmed hills the fall is about 200 inches.

History.

Of the early history of the State but little is known. Tradition says that it formed part of the ancient kingdom of Kerala, and that in the early centuries of the Christian era the whole of the west coast was ruled by a succession of chiefs who each held office for twelve years. About the first half of the ninth century A.D., Cheramān Perumāl, the last of these, is said to have divided his country among his relations, one of whom received the southern portion of Travancore, and then to have gone on a pilgrimage to Mecca. It seems fairly certain that during the latter half of the eleventh century the State was conquered by the CHOLAS, but about a century later the local kings recovered their lost possessions. During the middle of the thirteenth century the south-eastern portion of the State was invaded by the PANDYAS of Madura, who had then reasserted their independence of the waning Cholas. By the beginning of the

next century, however, the local kings once more regained power. Achyuta Rāya, the Hindu king of Vijayanagar, and Sadāsiva, his successor, invaded the State in 1534 and 1544. After the battle of Tālikotā, in 1565, in which this dynasty was crushed by the united Muhammadans of the Deccan, the State appears to have become feudatory to the Naik kings of Madura. At this time it seems to have been a congeries of petty chiefships, each of which claimed pre-eminence over the rest. In the first half of the eighteenth century, however, most of them were subdued by Mārtānda Varma, who may justly be called the maker of modern Travancore. He had his troops disciplined in the European fashion by a Flemish officer named De Lannoy (whose tomb may yet be seen in the ruined chapel of Udayagiri fort in south Travancore), he strengthened the fortifications of the country, improved its revenue administration, adorned it with palaces and temples, and increased its opportunities of commerce. In all his undertakings he was assisted by an able minister named Rāma Ayyan Dalawa, and both king and minister are even now the subjects of many popular anecdotes. Rāma Ayyan was also commander-in-chief of the king's army. Foremost among his military exploits was the conquest and annexation of the three principalities of KĀYANKULAM, AMBALAPULAI, and CHANGANĀCHERI. The consolidation of the conquered territories, the suppression of internal dissensions, and the establishment of peace and order formed his life-work. The organization of a commercial department for the development of trade, the introduction of an excise system, and the preparation, for the first time, of a consolidated statement regulating expenditure by the revenue were the most prominent of his labours as minister. Several of his measures and rules are still in force, and are popularly referred to as the *sattam* ('rule') of Rāma Ayyan Dalawa.

Mārtānda Varma was succeeded by Rāma Varma, who followed in his footsteps. He succeeded in subduing the remaining chiefs, and in 1761 constructed the historic Travancore Lines, stretching in an almost straight line from the shore of the Cochin backwater opposite the ancient town of Crānganūr to the foot of the Ghāts, to protect his State against the incursions of Haidar Alī, who had about this time usurped the sovereign authority in Mysore. Haidar threatened Travancore twice: in 1766 and again in 1776. But on both these occasions his plans were thwarted by the Dutch, who stood between him and the State. In 1778 the Rājā granted a free passage through his territories to the British troops sent to attack the French settlement of Mahé, then much valued by Haidar as the base of his military supplies. He had already treated with contempt Haidar's proposals to become his vassal, and had openly avowed himself the friend of the British, whom he actively joined in their campaign against the Muhammadan ruler. In

consideration of these services, he was expressly named in the Treaty of Mangalore concluded with Tipū, the son and successor of Haidar, in 1784, as the friend and ally of the British. Threatened by Tipū in 1788 the Rājā entered into an agreement with the British, by which he allowed two battalions of sepoys to be stationed on his frontier at his own expense. Just then Tipū, claiming the forts of Ayakotta and Crānganūr, which had recently been purchased by the Rājā from the Dutch, invaded Travancore (1789). He was utterly defeated and narrowly escaped being slain in the encounter. In the following year Tipū renewed the attack, and cruelly devastated the northern portion of the country. But hearing that the British had in consequence declared war against him, he beat a hasty retreat towards Pālghāt; and on the conclusion of the war, in 1792, he was compelled to restore all that he had wrested from Travancore. In 1795 the Rājā entered into a fresh treaty with the British, by which he engaged to pay an annual subsidy adequate to maintain three battalions of sepoys, with European artillery, in return for protection against all aggressors by sea or land. The Rājā also bound himself not to enter into any agreement with any European or Indian States without the previous consent of the British Government, nor to grant the former any settlements in his country, and to assist the British, whenever required, with his troops, who would be maintained at their cost. Three years after the conclusion of this treaty, the Rājā died. He had been ably assisted throughout the latter part of his career by Dīwān Rājā Kesava Dās, who is even now popularly remembered in the State as the great Dīwān. The Rājā was succeeded by his nephew, Rājā Bāla Rāma Varma. This prince was a weak ruler, and intrigue began. On the disbanding of the Nāyar battalions in 1804, an insurrection was raised to subvert British influence in the councils of the Rājā. It was easily suppressed by the subsidiary force from Quilon, and immediate measures were taken to prevent its repetition in future. A treaty was concluded in the following year (1805), by which the Rājā was relieved of his old obligation to furnish military aid, but was required instead to pay annually, in addition to the former subsidy of 8 lakhs of rupees, a sum adequate to maintain one more native regiment, and to bear an equitable proportion of the expense of a larger force, when necessary. He moreover bound himself to allow the British Government to assume the direct management of the State in case of non-payment; to pay at all times the utmost attention to the advice of the British Government; to hold no communication with any foreign State; and to admit no European foreigner into his service, or to allow him to remain within his territories without the previous sanction of the British Government. In 1809 the Dīwān, Velu Tampi Dalawa, in conjunction with the chief minister of the Cochin State, raised an insurrection and attempted to murder the Resident, Major

Macaulay. The outbreak was easily suppressed and the Rājā was required to defray the expenses incurred. These were but tardily discharged; and the British Government was about to assume the internal administration of the country, as the only means of ensuring a satisfactory settlement, when the Rājā died in 1810.

He was succeeded by Lakshmī Rānī, who confided the administration of the State to Col. J. Munro, the Resident; and from that date Travancore commenced a fresh career of peace, progress, and prosperity. The Rānī died in 1815, and her sister, Pārvatī Rānī, became regent till Rāma Varma, Lakshmī Rānī's eldest son, attained his majority in 1829. During his reign of seventeen years from that date, a series of administrative reforms were undertaken. He was succeeded by his younger brother, Mārtānda Varma, in 1846. The latter was followed in 1860 by his nephew, Rāma Varma, who received in 1862 from Earl Canning, then Governor-General of India, a *sanad* granting to him and his successors the right of adoption on failure of natural heirs[1]. He died in 1880 and was succeeded by his brother, also called Rāma Varma, who in 1885 was succeeded by the present Mahārājā, His Highness Sir Srī Rāma Varma, G.C.S.I. The State maintains a military force (part of which is known as the Nāyar Brigade) of 61 cavalry, 1,442 infantry, and 6 guns, and the Mahārājā is entitled to a personal salute of 21 guns.

Systematic researches in the field of archaeology have yet to be undertaken in the State. Some barrows have been discovered in the mountainous parts of north Travancore. They consist of three rude low pillars with a conical laterite cover, and are locally called Pāndukulis, that is, 'pits of the Pāndavas.' Two remarkable earthworks are also to be seen in Todupulai *tāluk* in the north-west. In the low hill-ranges, mounds of earth laid along the ridges are frequently met with, and also stone cromlechs with slabs planted in the middle of them, containing inscriptions. Roman *aurei* and other coins of the early emperors have been dug up. In 1896 a State archaeological department was organized, and through its agency inscriptions are being collected and deciphered. Most of these occur in the ancient temples with which the country abounds.

Population. The population of the State was 2,311,379 in 1875, 2,401,158 in 1881, 2,557,736 in 1891, and 2,952,157 in 1901. It contains nine towns and 3,885 villages. Six per cent. of the people live in the former. The towns have on an average 20,426 inhabitants and the villages 712. The density of population is

[1] The laws which govern succession are peculiar, descent being traced in the female line, according to the prevalent usage on the West Coast. Any failure in the direct female descent requires the adoption of two or more females from the immediate relations of the family, all of whom are assigned a distinguished rank and enjoy many privileges, as alone entitled to give heirs to the State. Owing to failure of natural heirs, two girls have recently been adopted, with the sanction of the British Government.

as high as 416 persons per square mile. Hindus in 1901 numbered 2,035,615 (68·9 per cent. of the total); Christians, 697,387 (23·6 per cent.); Muhammadans, 190,566 (6·4 per cent.); Animists, 28,183 (0·9 per cent.); and 'others,' 401. Malayālam is the language of more than four-fifths of the population. As many as 192 castes have been returned. Of these the Nāyars, the old military class, are the most numerous, aggregating 520,941, or 25 per cent. of the total Hindu population. Among them, as also among some of the lower castes, succession is traced through the female line; and marriage is a social compact, dissolvable at the will of either party. The next largest castes are the Iluvans or Tīyans (491,774, or 24 per cent.), the Pulayans (field labourers, 206,503, or 10 per cent.), and the Shānāns (toddy-drawers, 155,864, or 7 per cent.). The Paraiyans, the Kuravans, and the Asāris number between 50,000 and 100,000; and the Vellālas, the Brāhmans, the Mārāns, and the Kollans between 20,000 and 50,000. The most important class of Brāhmans is that of the Nambūdris, who affect extreme conservatism and ceremonial purity. Twelve other castes are each more than 10,000 strong. Of the Christians returned, 534 are Europeans. Sixty per cent. of the entire population depend upon agriculture in one form or other for their means of subsistence.

Christians are more than usually numerous. The Syrian Church is the oldest in the State, and is believed to have been founded in the very early centuries of the Christian era[1]. The Catholic mission, which comes next, may be said to date from 1330, when Pope John XXII deputed Friar Jordanus to be Bishop of Columbum (Quilon). The chief Protestant missions are the London Missionary Society and the Church Missionary Society, founded in 1806 and 1816 respectively. Of the total number of Christians, Roman Catholics number 377,500, Syrians 227,670, and Protestants 92,217.

The collection and record of vital statistics was begun throughout the State in August, 1905, but the system has not yet reached a high state of efficiency. The birth-rate in 1903-4 was returned at 18·6 per 1,000 of the population, and the death-rate at 14·5 per 1,000. The majority of deaths were due to fevers.

Agriculture.

The soil of the country differs in different localities. That along the coast is fine whitish sand, with a mixture of calcareous clay as a lower stratum, combined with vegetable matter; that in the lower parts of the valleys consists generally of a brownish-coloured clay, often porous and permeable and, in some places, stiff and hard to work; and that in the upper lands reposes on a basis of laterite, which frequently appears superficially in large masses.

[1] For details see *The Syrian Church in India*, by the Rev. G. Milne Rae (1892).

As the revenue settlement now proceeding has not yet been finished, no accurate agricultural statistics are available. The principal food-grain grown is rice, the area cultivated with it being about 940 square miles. The main source of agricultural wealth is, however, the coco-nut palm. The crops next in importance are pepper, areca-nut, jack-fruit, and tapioca, the two last forming considerable items in the diet of the poorer classes. On the hills are grown cardamoms, coffee, and tea, the last being the most important.

Buffaloes and bullocks are used for ploughing. The agricultural stock is, however, very poor, and cattle-breeding is not conducted on any considerable scale. The climate is probably too wet to allow animals to thrive well.

Though the extent of rice cultivation is large, the amount grown is not sufficient for the needs of the dense population. Large quantities are therefore imported. Famine, however, of the nature and extent experienced elsewhere in India is unknown. Garden cultivation is the mainstay of the people, and it is only when the gardens fail to yield their annual produce that scarcity begins to prevail. Failure of the rice crops tells, of course, adversely on the population of the locality affected; but its operation is usually limited to particular areas, and with the remission of taxes and other help from the State, and with the proceeds of their garden produce, the people are able to buy imported rice and in a manner tide over adverse seasons.

From an irrigation point of view, the country contains two distinct divisions. In north Travancore, with its numerous rivers and water-courses, the irrigation works are chiefly intended to protect the cultivation against floods and from the influx of saline water through the communications with the sea. South Travancore, on the other hand, with its comparatively small number of rivers, frequently suffers from scarcity of water. The rainfall has therefore to be stored and distributed in these areas. In very ancient times a dam was built across the Paralayār and a well-devised system of irrigation was organized. Though this has done much good, agricultural depression has been not infrequent. In order, therefore, to secure an efficient water-supply a project for damming up the waters of another river, the Kodayār, is now under execution. The supply so obtained is expected to irrigate an area of about 23,000 acres already cultivated, and also to bring under cultivation a fresh area of between 50,000 and 60,000 acres.

Forests, &c.

The forest area, which is confined to the eastern parts of the country, comprises nearly one-half its total extent. The growth may be divided into four different classes: (1) heavy moist forests of evergreen trees, confined to the slopes of the Ghāts and to perhaps about one-third of the upper hill plateau; (2) land originally covered with moist forest, but now overspread with scrub of various

ages; (3) deciduous forest, with grass growing under the trees, which covers the ridges and higher ground and a part of the hill plateau; and (4) rock and land covered with short grass. This last class is of no utility as far as timber is concerned. The second class contains no timber of any value except *vaga* (*Albizzia procera*). In the moist forests, the trees grow very close together and exhibit an extraordinary variety of species. Among the most important are ebony (*Diospyros Ebenum*), *kambagam* (*Hopea parviflora*), *anjili* (*Artocarpus hirsuta*), jack (*A. integrifolia*), and white cedar (*Dysoxylum malabaricum*). The deciduous forests are the most valuable; and here grow the trees for which Travancore is famous, such as teak (*Tectona grandis*), black-wood (*Dalbergia latifolia*), sandal-wood (*Santalum album*), *irūl* (*Xylia dolabriformis*), *vengai* (*Pterocarpus Marsupium*), and *tembāvu* (*Terminalia tomentosa*). The finest teak in Travancore is found on hills of an elevation of from 1,000 to 2,000 feet. About the beginning of the last century, a tree is said to have been felled in the Idiyara valley which measured 7 feet in diameter at its base and 26 inches in diameter at 70 feet from its butt, giving 900 cubic feet of timber. In the Trivandrum Museum, there is a plank sawn from a tree felled in the same valley which is 4 feet 3½ inches across. The trees felled in the forests are transported by land in south Travancore, and in the north are floated down the rivers. The major portion of the timber felled is exported to foreign places. Pondicherry and Tuticorin and the country north and east of Madura take large supplies, chiefly of *vengai*, *kambagam*, and *tembāvu*. Most of the teak and black-wood goes to Cochin, and is thence exported to Bombay and other parts. White cedar is largely used for manufacturing casks for the export of coco-nut oil to Europe. The more common woods are sent across to Arabia. The total value of the timber exported in 1903–4 was Rs. 3,79,000. In the same year the receipts from the forests amounted to Rs. 6,75,000, and the expenditure to Rs. 4,73,000. The total area of 'reserved' forests was 2,153 square miles, and of land proposed for reservation 239 square miles. An area of 1,900 square miles was under protection against fire. Teak, sandal-wood, and other valuable trees are being artificially reproduced, the extent opened up for teak cultivation being about 2,000 acres. Attempts are also being made to grow exotics, such as camphor, rubber, &c.

The Forest department is under a Conservator; and four divisions, each under a Deputy or Assistant Conservator, are subdivided into ranges, each under a ranger.

The mineral resources of the country have yet to be explored and ascertained. Plumbago is the only mineral now worked to any extent. The first systematic attempt at mining it was made in 1892. Three mines are now being worked, two in the Nedumangād and one in the

Neyyāttinkara *tāluk*, the total output amounting to 20,000 tons, of which 18,000 tons are obtained from the Vellanād mines in Nedumangād. Mica of a superior quality is also found in several parts of the country.

Arts and manufactures.

Cotton-weaving and the making of matting from coir (the fibre of the coco-nut) are the chief industries. Cotton cloths of many kinds are woven in south Travancore and sold locally. The coir mats and yarn are exported. Coarse gunny-bags are also made to some extent.

There were, in 1903–4, thirteen factories in the State: three at Quilon and ten at Alleppey. Of these, three make coir matting, one manufactures coir fibre, three are oil-mills, one is a cotton-spinning factory; and in five miscellaneous work, such as the pressing of coir, fibre, and yarn, tile-making, carpentry, &c., is carried on. Besides these, thirty tea and coffee factories were worked on the High Range. Steam power was in exclusive use in eleven of these concerns. The total number of hands employed averaged 4,863; and their daily wages ranged from 1 anna 8 pies to 11 annas 2 pies. Among the arts practised should be mentioned the carving of ivory, which has long been under the direct patronage and encouragement of the rulers of the State, and examples of which won a medal at the Delhi Exhibition of 1903. Efforts are being successfully made, also, to establish an industry in the weaving of plantain fibre.

Commerce and trade.

Trade has greatly expanded of late. The value of the external trade (imports and exports) averaged 170 lakhs during the decade ending 1890 and 240 lakhs during the next decade, showing an increase of 43 per cent. In 1903–4 the exports formed 65 per cent. and the imports 35 per cent. of the total. Of the external commerce, 86 per cent. was with British India, 9 per cent. with Ceylon, 2 per cent. with the United Kingdom, and 3 per cent. with other countries. Taking the trade routes, 37 per cent. of the trade was carried on by sea, 45 by backwater, and 18 by land. Most of the backwater trade may, however, be regarded as sea-borne trade, as it consists of goods carried to Cochin for shipment by sea. The chief centres of commerce are Kolachel, Quilon, and Alleppey on the coast, and Kottār, Kāyankulam, Changanācheri, and Alwaye inland. The principal trading communities are the Musalmāns, Ila Vāniyans, Syrian Christians, Chettis, Vellālas, and Brāhmans, the last three of whom do most of the banking business. The chief exports are the products of the coco-nut tree: namely, copra (dried kernels), coir, fibre, and coco-nut oil and nuts; and these represent more than 50 per cent. of the total. After them come pepper, tea, jaggery (coarse sugar), areca-nuts, dry ginger, salted fish, timber, hides, tamarinds, and coffee. The chief imports are tobacco, rice, piece-goods, cotton, and thread.

Till 1865, Travancore had its own import and export tariffs. In that year an Interportal Convention was entered into with the British Government, under which duties may be charged only upon tobacco, salt, opium, and spirits manufactured or produced in British territory and thence imported into Travancore, and on salt, opium, and spirits produced or manufactured in Travancore and imported into British territory. With the same exceptions as were arranged with the British Government, free import is allowed from Cochin to Travancore and vice versa. On foreign goods, Travancore adopts the British Indian tariff rates, except in the case of tobacco. As regards exports, it retains its own tariff, but its policy has been to keep the rates low.

Communications.

Travancore is well provided with means of communication. The total length of roads maintained by the department of Public Works in 1903–4 was 3,026 miles, exclusive of 'traces' 376 miles in length. The chief lines are the trunk roads radiating from Trivandrum to the northern frontier, via Kottārakara, Changanācheri, Kottayam, and Mūvattupula (155 miles); to the southern frontier, via Nāgercoil (53 miles); to the eastern frontier, via Shencottah (65 miles); and to Quilon on the coast (45 miles). Among the more important roads are those leading from Changanācheri and Kottayam, via Pīrmed to the Kumili frontier and thence to Ammayanāyakkanūr in Madura (about 145 miles); from Quilon to Shencottah (60 miles); and from Munnar on the High Range to Bodimettu on the Madura side of the frontier (21 miles) and to Chinnar on the Coimbatore side (40 miles). Connected with one another by numerous cross-lines, these roads form a network of communications covering almost the whole country. Where the steepness of the ground or other causes have made it difficult to open cart-roads, bridle-paths have been cut or are under construction, of which the most important are those connecting the High Range with the low country on the south and with the coast on the west. Hardly an estate on the hills is not connected with cart-roads by bridle-paths.

The facility of communication which the north and central portions of Travancore enjoy lies, however, in the possession of a natural system of backwaters, besides canals and rivers navigable for country boats. The backwaters consist of a series of lagoons running parallel to the coast, separated from it by a strip of land from half a mile to 7 miles in breadth, and artificially connected with each other wherever they may not be continuous. About 200 miles of navigable canals and backwaters are maintained by the Public Works department.

Two lines of railway intersect the country: the Cochin-Shoranūr Railway in the north-west, and the Tinnevelly-Quilon Railway passing through the heart of the State. The length of the former line within Travancore is about 18 miles, and that of the latter about 58 miles.

The State provided the cost of the construction of the latter through its territory, amounting to 108 lakhs.

Travancore has its own postal (*anchal*) system, working side by side with the British post offices. The two systems have no connexion with one another, and additional charges have to be paid on communications, parcels, &c., transferred from the one to the other. Thus articles posted outside Travancore and transferred from any British post office within Travancore for delivery through the *anchal* are charged at prepaid rates, and those posted in any British office within Travancore and transferred to the *anchal* are charged at double rates. Originally, the *anchal* was maintained exclusively for the service of the State. In 1860 it was thrown open to the public, and the system of levying postage on letters and parcels was introduced. In 1903-4 the number of *anchal* offices was 150 and the number of letter-boxes 179; the length of mail communications was 928 miles; and about 4,884,000 covers, private and official, passed through all the offices. The *hundi* or money-order system has recently been introduced, on the lines in force in the British Post Office. In 1903-4, 67,300 orders were issued and 66,800 paid, the receipts and payments amounting to Rs. 9,83,100 and Rs. 9,82,700 respectively.

The actual receipts of the Anchal department amounted during the official year 1903-4 to Rs. 77,000 or, including the sum chargeable on official covers, to Rs. 2,92,000. The cost of the establishment was Rs. 1,00,000. The State has its own postage stamps and cards. They are of the following descriptions: stamps of the value of 8 cash (3 pies), 12 cash (5 pies), 1 chakram (6·7 pies), 2 chakrams, and 4 chakrams; covers for 1, 2, 3, and 4 chakrams; wrappers for 6 cash ($2\frac{1}{2}$ pies); and cards for 4 cash ($1\frac{3}{5}$ pies).

Famine may be said to be unknown in Travancore, though, as has been already mentioned, bad seasons occasionally cause small and local distress.

Administration. For general administrative purposes the State is divided into 31 *tāluks*, grouped into four divisions or districts: namely, Padmanābhapuram (five *tāluks*), Trivandrum (four), Quilon (eleven), and Kottayam (eleven). The average area of a division is 1,773 square miles and the average population 738,039. A *tāluk* averages 229 square miles in extent and contains 92,255 persons; but, owing chiefly to diversity of physical features, the range of variation in these figures is very wide. For purposes of revenue collection, the *tāluks* are further subdivided into smaller areas called *provertis*, each under a paid officer styled the *provertikāran*.

Each division is provided over by a Dīwān Peshkār and District magistrate, answering to the Collector-Magistrate of a British District. A *tahsīldār*, who is usually a second-class magistrate, is in charge of

each *tāluk*. The Peshkārs form a superintending and checking agency, and are responsible for the proper and regular administration of the *tāluks* comprising their charge. In addition to the four Peshkār magistrates, there are two other District magistrates, one being the Commercial Agent at Alleppey and the other the Superintendent of the Cardamom Hills.

The chief branches of the administration, besides the Revenue and Executive, are the Judicial, Survey and Settlement, Public Works, Anchal, Forest, Medical, Sanitary, and Educational. Their jurisdictions differ and are often not conterminous with the revenue divisions noticed above. Their organization and the rules and regulations laying down the general lines of their working are mainly after the British model.

The administration of the State is conducted in the name and under the authority of His Highness the Mahārājā by the Dīwān or prime minister. A Popular Assembly, consisting of non-official gentlemen nominated by the Government to represent the various *tāluks* and towns and the planting interest, has recently been constituted to assist in ascertaining public opinion upon administrative questions.

Legislation and justice.

The laws of the State are known as Regulations, and till recently they were framed by the Dīwān and passed by the Mahārājā. In order to secure for legislative measures the necessary guarantee of full discussion and mature deliberation, a Legislative Council was established in 1888 under a Regulation defining its constitution and working. It now consists of eight members, of whom three are non-officials, with the Dīwān as the *ex-officio* president. The maximum strength of the Council is fixed at fifteen, of whom not less than two-fifths must be selected from outside the State service. Every legal measure is first introduced in the Council and printed in the Government Gazette for criticism by the public. After being considered and passed by the Council, it is submitted to the Mahārājā for approval and to the Madras Government for sanction, and becomes law only when it has received the assent of both. In cases necessitating immediate legislation, a Regulation may be passed without the intervention of the Council, but its operation is limited to a period of six months. The scope of this Council does not include the relations of the State with the British Government, the extradition of criminals, European British subjects, seaports, post office, telegraphs, railways, &c. Since the establishment of the Council, 58 Regulations have been brought into existence and have served to remodel the laws of the country on principles suited to present local conditions.

The present judicial machinery of the State, which is the outcome of the administrative measures of nearly three-quarters of a century,

consists of twenty-five courts exercising civil, and sixty-four courts exercising criminal jurisdiction, all of which are subject to a High Court at Trivandrum. The lowest civil court is that of the Munsif (there are twenty of these), and its ordinary jurisdiction extends to suits up to Rs. 1,000 in value. Five Zila or District courts are located at the towns of Nāgercoil, Trivandrum, Quilon, Alleppey, and Parūr, which hear appeals from the decisions of Munsifs and try suits exceeding Rs. 1,000 in value, and also all suits to which the Government is a party. The High Court, which is the final appellate authority, consists of a Chief Justice and three Puisne Judges, one of whom is usually a European. It has no original jurisdiction, and hears appeals in suits of the value of Rs. 2,500 and under through a division bench of two Judges, and appeals of above that value through a full bench of three Judges. In the latter class of cases, the decisions have to be approved by the Mahārājā.

For the administration of criminal justice there are five Sessions courts, which exercise original jurisdiction in Sessions cases and hear appeals from the six District magistrates, and seven first-class, thirty-nine second-class, and seven third-class magistrates. The High Court hears only appeals; and all sentences of death or imprisonment for life passed by a Sessions court and confirmed by it have to be submitted for the approval of the Mahārājā. Besides these courts, there are special magistrates, who are European British subjects and Justices of the Peace, for the trial of Europeans. These justices have powers to sentence up to three months' imprisonment and Rs. 1,000 fine. Appeals from them lie to the European Judge of the local High Court. The British Resident is also a Justice of the Peace with the powers of a Sessions Judge over European British subjects, and appeals from him lie to the High Court of Judicature at Madras. Europeans are within the jurisdiction of the ordinary courts in regard to all civil matters and also in cases of contempt.

Crime in the State does not present any features worthy of special note. The inhabitants are very peaceable and law-abiding, and the acute distress which is generally an incentive to crime is comparatively unknown. The usual offences are petty thefts and assaults. The *tāluks* bordering on the Tinnevelly frontier near and about the Aramboli pass are occasionally subject to the raids of Maravan robbers, but the sense of security within the country itself is proverbial and people generally prefer to travel during the night. Civil litigation, however, is fostered to some extent by the minute subdivision of property and the peculiar system of inheritance.

A separate department exists for the registration of deeds, which is controlled by a Director. The State is for this purpose divided into three districts with a District Registrar for each, and subdivided

into 51 registry offices each under a sub-registrar. The average area and population served by each registry office are 139 square miles and 57,885 persons respectively. In 1903-4 the number of documents registered was 180,361, of which 97 per cent. related to immovable property. The average value of each document was Rs. 220.

Finance.

The total revenue increased from an average of Rs. 69,01,050 during the decade ending 1890 to Rs. 89,88,900 during the next decade, or by 30 per cent. In 1903-4 the total revenue was Rs. 1,02,01,900. The decennial averages for the main heads of revenue are shown in the following table, together with the actual receipts in the last official year:—

Main sources of revenue.	Average for		Receipts in 1903-4.
	1881-90.	1891-1900.	
	Rs.	Rs.	Rs.
Land revenue	17,98,255	21,28,314	22,97,488
Salt	15,09,017	19,55,300	19,27,837
Customs	5,03,388	6,86,865	8,92,444
Tobacco	8,46,874	10,11,845	12,32,594
Abkāri and opium	3,46,602	6,32,572	8,41,413
Cardamoms, timber, and other forest produce	5,73,441	6,67,100	7,83,094
Stamps	1,84,140	3,59,034	4,49,674

A considerable increase has occurred under all the items, but it has been brought about without the imposition of additional burdens on the people. Indeed, during the last half-century more than a hundred miscellaneous taxes and cesses have been abolished; the land tax has been reduced in several areas; inequalities in the public burdens have been removed by the withdrawal of special demands, such as succession duties, &c., which pressed on certain classes of the population; the State monopolies in pepper, tobacco, and cardamoms have been abandoned; trade has been freed from fiscal restrictions; and industries have been promoted by the remission of the export duties on many articles and by liberal reductions on others. As a consequence, the State revenues have nearly trebled during this period.

With this enormous growth in the revenue, the expenditure has more than kept pace. The average expenditure increased from 66·4 lakhs during the decade ending 1890 to 88·1 lakhs during the next decade, or by 32 per cent. The percentage of expenditure on income was 96 in the former, and 98 in the latter period. During the two years ending 1903 the expenditure outstripped the income by more than 12 lakhs, and the actual expenditure in 1903-4 amounted to 106 lakhs. This steady increase in expenditure has been in directions calculated to promote the best interests of the people, as the following table shows:—

Main items of expenditure.	Average for		Expenditure in 1903-4.
	1881-90.	1891-1900.	
	Rs.	Rs.	Rs.
Law and justice, including police and jails	4,96,885	7,11,665	8,18,440
Education	2,31,137	3,90,431	6,63,345
Medical institutions, including vaccination and sanitation	1,53,547	3,13,006	4,10,018
Public works	10,64,837	18,59,476	26,83,081

The financial policy of the State, however, has always been so to adjust expenditure to income as to leave a small surplus from year to year, a policy which the steady expansion of the revenues has made it possible to carry out, even after fully meeting the growing requirements of progressive administration. The amounts thus saved aggregate 90 lakhs, of which 60½ lakhs are invested in Government of India and other securities, bringing in an interest of Rs. 2,60,000. This reserve fund is now being utilized in the execution of a few important public works, and will be drawn on still further should the current finances incline towards an equilibrium between income and expenditure.

The State has its own currency, the coins being minted in the State mint at Trivandrum. The coins current are silver pieces of 2 chakrams (1 anna 1·47 pies of British Indian currency); 4 chakrams, called the fanam; quarter of a rupee, valued at 7 chakrams (3 annas 11·16 pies); and half a rupee, valued at 14 chakrams; and copper pieces of 1 cash (0·42 of a pie); 4 cash; 8 cash; and 1 chakram, valued at 16 cash. There is, however, no rupee coin, the Travancore rupee being valued at 28 chakrams (15 annas 8·63 pies), and the British rupee being thus equivalent to 28 chakrams 8 cash. The silver coins of British India circulate freely throughout the State.

Land revenue.

The system of land tenures is of a peculiarly complicated nature. It is *ryotwāri* in principle, the settlement being made directly with individual ryots; but while some lands are subject to full assessment, others pay only a nominal rate, and others again enjoy complete exemption. The numerous tenures fall under two major heads—*janmam* and *sarkār*. The *janmam* lands are of three kinds: those which are absolutely exempt from tax, the normal condition of *janmam* lands; those which are tax free so long as they remain with the original proprietors, but become liable to tax when they are transferred to other hands; and those subject *ab initio* to a light quit-rent. The *sarkār* lands are of more than sixty varieties. Some of these are freehold and enjoy absolute exemption from tax, others are favourably assessed, and the rest fully assessed. The chief varieties of *sarkār* lands are (1) *kuttagapāttom*, a tenure applied only to isolated tracts, such as the Palliport farm and the Pulienturuttu lands,

which are leased to individual ryots for comparatively short periods; (2) *vempāttom*, the most prevalent and the simplest of the tenures, under which the land pays full assessment; (3) *otti*, which is in the nature of a mortgage, the parties to the transaction being the State on the one side and the ryot holding the land on the other, the consideration being either actual cash borrowed by the State or something equivalent to it, and interest being allowed on these loans and deducted from the full assessment; and (4) *vritti* tenures, or service *ināms*.

The administration of the land revenue is based on the settlements of 1802 and 1836. According to these, the average assessment per acre on 'wet' lands amounts to Rs. 2, and on garden lands to Rs. 1–2–8. To remedy the defects and imperfections of previous settlements, a comprehensive scheme of revenue survey and settlement was introduced in 1883. The survey has been almost completed. Eight *tāluks* have been settled, and have yielded an increase in revenue amounting to over Rs. 1,20,000. The incidence of the assessment per acre is Rs. 4 on 'wet' land, and about R. 1 on garden and 'dry' land.

Miscellaneous revenue.

By the Interportal Convention of 1865, the State agreed to give up all import duties on British Indian produce, with the exception of tobacco, salt, opium, and spirits, but claimed, in the form of a guarantee or drawback, the revenues realized in British Indian ports on foreign produce re-exported to Travancore. The State also agreed to lower its export duty to 5 per cent. *ad valorem* on all articles except pepper, dried betel-nuts, and timber, and to reduce the duty on tobacco to the extent of Rs. 1,00,000 a year.

The salt consumed in the country is partly made within it, but mostly procured from Bombay. At three places in south Travancore —Tamarakulam, Rājakkamangalam, and Variyūr—salt is manufactured in State pans, the manufacturers being paid R. 0–1–8 per maund ($82\frac{2}{7}$ lb.) of salt delivered into the State stores. The Bombay salt is delivered by contractors, engaged by public auction, at the Travancore ports of Munambam, Alleppey, Quilon, and Trivandrum. From these it is conveyed to various *bankshalls* (warehouses) distributed over the country. There are sixty-seven of these *bankshalls*, and salt is sold at them to the public at uniform rates, which are slightly higher in the case of the Bombay product than in that of the locally made salt. The present duty is Rs. 1–8 per maund, and the selling price is placed somewhat higher to cover the cost of establishment, transport, &c. Under the Interportal Convention with the British Government, the duty on salt is enhanced or reduced in accordance with the British Indian rates.

About 26,000 tons of salt are consumed per annum. Of this, 20,000 tons come from Bombay, and the rest is the home product.

The gross revenue on account of salt in 1903-4 was Rs. 19,28,000. Deducting the charge for establishment, &c., the net revenue amounted to Rs. 14,63,000.

In two of the four divisions in the State, Kottayam and Quilon, the supply of alcoholic liquor is worked under the farming system, while in Padmanābhapuram and Trivandrum the excise system has lately been introduced. In the farming tracts the police exercise the necessary powers of detection, &c., while in the excise tracts the *ābkāri* officers perform this duty. Three *tāluks* of the Trivandrum Division are supplied with toddy arrack procured through a contractor from north Travancore and Cochin, while the remaining *tāluks* of the two excise divisions are supplied with jaggery arrack manufactured by a contractor at his distillery at Nāgercoil. Still-head duties on the different kinds of liquor are levied by the State. The import and sale of European liquor are also regulated by law. Licences are issued for the sale of this on payment of fees of Rs. 50 and Rs. 30 for wholesale and retail vend respectively. The gross *ābkāri* revenue in 1903-4 was Rs. 7,86,000, and the expenditure was Rs. 22,000.

The right to sell opium is leased for terms of three years. The contractor procures his supply from the Government storehouse at Madras, after paying the requisite price and duty into the British Resident's treasury and obtaining the necessary passes for its transport. No separate establishment is maintained for collecting the revenue. The contract includes the right of selling *bhang*.

Jaffna, Coimbatore, and Tinnevelly tobaccos are consumed in the State. The tobacco when imported is bonded by the importers in official warehouses, which are six in number and located at Kottār, Trivandrum, Quilon, Alleppey, Mūvattupula, and Alwaye. When it is removed from these buildings, a uniform duty of Rs. 90 per candy is paid to the State, irrespective of quality. In 1903-4 the gross revenue from tobacco amounted to Rs. 12,32,000. Deducting charges, the net revenue was Rs. 11,81,000.

Till 1894 the sanitation and conservancy of urban and rural areas were attended to by the local revenue and magisterial officers. Since then the urban areas—Trivandrum, Nāgercoil, Quilon, Alleppey, and Kottayam—have been placed under town improvement committees, analogous to the municipal councils of British India, composed of official and non-official members with a president as the executive head, all nominated by the State. A separate Regulation guides their working. The expenses are met out of the State revenues and no municipal taxes are as yet levied. In 1903-4 about Rs. 55,000 was spent on the five towns. The sanitation of rural areas is attended to by a separate Sanitary department, organized in 1895, and placed under the charge of a Sanitary Commissioner. The general appearance of the towns and

the health of the country have perceptibly improved since the introduction of these measures.

Public works.

For the execution of public works there are two departments: the Public Works department proper under the Chief Engineer, and the Marāmat ('repairs') department under the general administrative officers. All works of importance requiring considerable scientific knowledge are entrusted to the former, while the charge of works connected with palaces, temples, and rest-houses, the construction of village roads, ordinary tank repairs, and the distribution of water for irrigation in south Travancore, rest with the latter. The Marāmat department was organized in 1833 and the Public Works in 1860. In 1900–1 the total outlay amounted to 22·3 lakhs, or 23 per cent. of the State revenue, 17·39 lakhs being spent by the Public Works and 4·9 lakhs by the Marāmat department. In 1903–4 the proportion of the total revenue devoted to public works was 26 per cent. During the last twenty years, numerous works of public utility have been constructed, such as the Women and Children's Hospital, the Central jail, the Leper and the Lunatic Asylums, the Girls' College, the Female Normal School, the Industrial School of Arts, the golf grounds, the Banqueting Hall, the Victoria Jubilee Hall, the public library, all at Trivandrum; and, outside it, the District courts at Parūr, Alleppey, and Nāgercoil; Munsifs' courts, *tāluk* and other public offices, several hospitals, police stations, &c. Many rivers—the Parappār, Vāmanapuram, Tiruvattār, Palayār, &c.—have been bridged, and several miles of new road opened. Under miscellaneous engineering works may be mentioned the installation of gaslight at the capital, and the reconstruction and extension of the pier at Alleppey.

Army.

The State maintains a small force of artillery for saluting purposes, a body-guard for the Mahārājā of 61 mounted men, and the Nayār Brigade of infantry. The last consists of 1,442 men officered from the Indian Army and divided into two battalions, of which one is armed with breech-loading carbines, and the other, which is chiefly employed on guard duties, with breech-loading muskets.

Police and jails.

The present police force was organized in 1881; before that the Dīwān Peshkārs or divisional officers, the *tahsīldārs*, and sub-magistrates exercised police functions. The department is under the control and management of a Superintendent, and there are three police divisions, each in charge of an Assistant Superintendent. Exclusive of these officers, the force numbered 1,743 men in 1903–4. Of these, 318 were employed in the reserve, as jail guards and so forth, so that 1,425 men were engaged in purely police duties. They worked under 44 inspectors, and occupied 65 police stations and 118 sub-stations. The propor-

tion of the effective strength to area and population was 1 to every 4·9 square miles and 2,071 persons. The average cost per policeman was Rs. 136 per annum. There are no rural police, as in British Districts.

Three prisons are maintained in the State: the Central jail at the capital, under a Superintendent; and two District jails, one at Quilon and the other at Alleppey, under the District magistrates. A jail is also attached to the District courts of Nāgercoil and Parūr for lodging under-trial prisoners and civil debtors. The Central jail contained in 1903–4 an average daily number of 438 prisoners. The cost of maintaining each prisoner was Rs. 106 per annum, or, if the value of convict labour is taken into account, Rs. 69.

Education.

At the Census of 1901 it was found that 12·4 per cent. of the population (21·5 males and 3·1 females) were able to read and write, a very high proportion compared with most other parts of India. The history of the education of the people by State agencies dates back to 1834, when an English free school was opened at Trivandrum, which afterwards developed into the present Arts college. Shortly afterwards, schools were started in the chief out-stations to serve as feeders to the free school. In 1866 a system of State vernacular education was organized, and now every year sees the opening of new schools and an increased number of boys and girls brought under instruction. In 1890–1 there were 2,418 institutions of all classes and grades, with 104,616 pupils. By the end of the next decade, the numbers had increased by more than one-half. Of the total of 3,727 institutions returned in 1903–4, 439 were State schools, 1,040 private aided, and 2,248 private unaided. The pupils under instruction in these three classes of institutions numbered respectively 51,169 (26 per cent. of the total), 59,430 (30 per cent.), and 86,786 (44 per cent.). Of the total number of institutions, 3,525 were primary, 169 secondary, and 28 training or special schools, besides 6 colleges. Classified by sex, the pupils numbered 151,053 boys (77 per cent. of the total) and 46,332 girls (23 per cent.); grouped by religion, 63 per cent. were Hindus, 32 per cent. Christians, and 5 per cent. Muhammadans. The most noticeable feature in the educational statistics of recent years is the great advance made in female education. With the spread of institutions for their instruction, the number of girl pupils more than trebled during the decade ending 1890, and more than doubled during the next decade. In 1903–4 female education was provided for in 2 Arts colleges, 3 English high schools, 1 vernacular high school, 7 English middle schools, 33 vernacular middle schools, and 138 vernacular primary schools. Education is free in all these institutions. Another feature in the educational history of the State is the effort made to bring the backward classes and the hill tribes under instruc-

tion, by the opening of special schools and the sanction of increased grants, &c. In 1903–4 about 44,000 of these people were under instruction in 480 public schools. Five institutions situated on the hills are mainly intended for the hill tribes. The part played by the missionary bodies in the diffusion of education among all classes, and among the depressed in particular, is very considerable.

The total expenditure on education amounted in 1903–4 to 6·6 lakhs, of which about 1·3 lakhs was derived from fees, &c. Of this total, 27·4 per cent. was devoted to primary schools.

The State maintains two Arts colleges at Trivandrum, one for boys, teaching up to the B.A. standard, and the other for girls, teaching up to the F.A. standard; and also a law college. In addition, three private colleges—the Scott Christian College at Nāgercoil, the Holy Angels' Convent College at Trivandrum, and the Church Missionary Society's College at Kottayam—teach up to the F.A. standard. Of the six training schools, two are maintained by the State: one for male, and the other for female teachers. There are twelve special schools: the Sanskrit College, the Industrial School of Arts, and the Reformatory, all at Trivandrum and under State management; eight aided schools, the Srī Mūla Rāma Varma Technical Institute at Nāgercoil, two schools for carpentry at Mulakumūd and Attingal, and also two schools in these places for teaching girls lace-making, the Native Technical Institute at Trivandrum, the Rāma Varma Technical and Industrial School at Changanācheri, and the Church Missionary Society's Industrial School at Kottayam; and one private (unaided) institution, the technical school for carpentry at Takkalai. The work in the State Industrial School comprises two branches: industry, including lacquer-work, carpet-weaving, carving, &c.; and art, comprising drawing, design, and painting. The school holds a prominent position among those of Southern India. At the recent Delhi Exhibition, Travancore ivory-carving won a gold medal. The extraction of fibre from plantains and the weaving of cloth and turbans promise to be the source of a large and profitable industry, though further improvements are still required.

For purposes of administrative management and inspection, the State is divided into three educational ranges, each under an Inspector in direct correspondence with the Dīwān. The vernacular and the English schools, which till 1894 were under separate officers, have all been placed under the Inspectors, excepting the chief State institutions at the capital. A textbook committee selects or arranges for the preparation of suitable textbooks.

For many years the only newspaper in Travancore was an English journal published at Nāgercoil, which was started under mission auspices. Of late, the development of the press has been very rapid; and there were in 1900–1 twelve vernacular papers and magazines, and

three English newspapers. By 1903–4 the numbers had increased to nineteen and five respectively. The vernacular papers have an average circulation of 850 copies, ranging from 2,500 to 225. One of them deals with social, one with educational, six with religious, and eleven with general and political topics.

Medical.

Travancore is liberally supplied with hospitals and dispensaries. Taking the State and aided institutions together, there is one fo every 25,896 of the population and to every 62 square miles of the total area, or every 21 square miles of the occupied area. The State institutions comprise 22 hospitals and 30 dispensaries, with accommodation for 1,215 in-patients. In 1903–4, 15,700 in-patients and 608,000 out-patients were treated at them, 26,700 operations were performed, and the expenditure was Rs. 2,73,000.

The missionary bodies also administer relief to the sick at their chief centres. Foremost among the State institutions are the General Hospital, opened in 1865, which contains accommodation for 104 in-patients; the Taikkād Hospital, with 130 beds, founded in the third decade of the last century; the Women and Children's Hospital, with 35 beds, under a qualified lady doctor; and the Maternity Hospital, with 42 beds—all these being located at Trivandrum. The Victoria Jubilee Hospital at Quilon contains 22 beds. The State further maintains at the capital two special institutions, one for lunatics and another for lepers. In 1903–4, 164 patients were treated in the former and 243 in the latter. The whole Medical department is under the charge of an officer of the Indian Medical Service, who is also Physician to the Mahārājā and is styled the Darbār Physician. At a veterinary hospital at Trivandrum 224 animals were treated in 1903–4.

Vaccination is carried on by the Sanitary department, with a staff of 80 vaccinators, including eight women. A vaccine dépôt is established at the capital, where calf-lymph is prepared under the direction of a specially trained medical graduate and distributed to the several stations. Vaccination is not compulsory, but the number of operations performed in 1903–4 was 150,000 or 50 per 1,000 of the population.

[*Census Reports* of 1891 and 1901; V. Nagam Aiya, *Travancore State Manual*, 3 vols. (Trivandrum, 1906).]

Trevandrum.—Town in Travancore State, Madras. *See* TRIVANDRUM.

Tribenī Canal.—A protective work now under construction in Champāran District, Bengal. The sanctioned estimate provides for 61 miles of main canal, with 250 miles of distributaries. The canal will derive its supply from the Gandak river and will run eastwards along the northern boundary of the District, serving an area of about 450 square miles; it is expected eventually to irrigate 125 square miles

of rice and 47 square miles of *rabi* crops. The estimated cost, including indirect charges, is 51½ lakhs.

Tribenī Village ('Three streams').—Village in the head-quarters subdivision of Hooghly District, Bengal, situated in 22° 59′ N. and 88° 26′ E., and now included within the Bānsbāria municipality and connected with Magrā by a branch of the Bengal Provincial Railway. It derives its name from its situation at the junction of the Ganges or Hooghly, the Saraswatī, and the Jamunā. The last-named stream flows into the Hooghly on its left bank, opposite the southern extremity of an extensive island in the middle of the river facing Tribenī. North of the Saraswatī is the Tribenī *ghāt*, a magnificent flight of steps attributed to Mukund Deo, the last of the Gajapati kings of Orissa, 1559–68. South of the *ghāt* lies the village of Tribenī, which is considered to possess great sanctity. The Rev. Mr. Long, in an article in the *Calcutta Review* published many years ago, says that Tribenī was one of the four great centres of Hindu learning, the others being Nabadwīp, Sāntipur, and Guptipāra. Tribenī formerly contained over thirty Sanskrit schools and it was also once noted for its trade.

South of Tribenī village stands a famous mosque, built with materials obtained from an older Hindu temple, which contains the tomb of Jafar Khān, described by the late Professor Blochmann in the *Journal of the Asiatic Society of Bengal*, vol. xxxix, part i, for 1870, p. 282. The principal Hindu festivals held at Tribenī are the following: Makara Sankrānti or Uttarāyan, the day on which the sun enters Capricorn, takes place in January on the last day of the Hindu month of Paus and the first day of the succeeding month of Māgh. The great bathing festival on Sāgar Island is held at this time, and a *mela* or fair at Tribenī, which is attended by about 8,000 persons; Bisuva Sankrāntī, held in honour of the Sun at the time of the vernal equinox, falling in February; Bāruni, the great bathing festival of Bengal, in honour of Varuna, the god of the waters, held in February or March; Dasaharā, held in June, in commemoration of the descent of the goddess Gangā from heaven, to save the souls of the 60,000 sons of king Sagar, who were reduced to ashes for the crime of assaulting a Brāhman sage; Kārtik Pūjā, held in November, in honour of Kārtikeya, son of the goddess Durgā. All these gatherings form occasions for trade.

Trichendoor.—Town in Tinnevelly District, Madras. *See* TIRUCHENDŪR.

Trichengode.—*Tāluk* and town in Salem District, Madras. *See* TIRUCHENGODU.

Trichinopoly District.—An inland District in the south of the Madras Presidency, lying between 10° 16′ and 11° 32′ N. and 78° 8′ and 79° 30′ E., with an area of 3,632 square miles. It takes its name

from the famous city which is its administrative head-quarters. The word is popularly derived from Trisirāppalli, meaning the town of Trisira ('the three-headed'), a *rākshasa*, or demon, the brother of Rāvana, the villain of the Rāmāyana, who is said to have ruled the place. The District is bounded on the east by Tanjore, the dividing line for some distance being the Coleroon river; on the north by South Arcot and Salem; on the west by Coimbatore and Madura; and on the south by the State of Pudukkottai.

Physical aspects.

A small rambling range of hills called the PACHAIMALAIS ('green hills'), which extend into Salem District, lies in the north-western corner; and towards the southern and south-western borders the country is broken up by rocky hills covered for the most part with scrub jungle. But elsewhere the general character of the District is an undulating plain, divided east and west by the valley of the Cauvery and dotted here and there with small hills, of which the great rock fort in Trichinopoly city, the neighbouring Golden Rock near the Central jail, and Ratnagiri near Kulittalai are the principal examples.

The CAUVERY is one of the chief natural features of the District. It runs across the centre from west to east, and at the holy island of Srīrangam splits into two branches, of which the one retains the original name of Cauvery and the other is called the Coleroon. These are the most important rivers in the District, and receive the greater part of its drainage. In the north, a small area drains into the VELLĀR, which forms the northern boundary for some distance.

The eastern half of the more northern of the two portions into which Trichinopoly is divided by the alluvial valley of the Cauvery is occupied by sedimentary deposits; the western by Archaean gneisses and granites, mostly hornblendic. The southern of these two portions is formed of Archaean rocks, granites and gneisses, overlaid in the south-east corner of the Trichinopoly *tāluk* by a thin bed of conglomeratic laterite, which has been carved by local denudation into a number of patches forming miniature plateaux. Crystalline limestone occurs in several places north and south of the Cauvery, the prevailing colours being light grey, white, pink (of great beauty), and bluish. Two great and generally rich beds of magnetic iron lie at the southern end of the Pachaimalais. Neither the limestone nor the iron has been worked, though the quantity available is large. The oldest of the sedimentary deposits referred to above are representatives of the Upper Gondwāna or Rājmahāl system, a formation remarkable for containing great quantities of plant remains of Jurassic age. The so-called 'plant-beds' near Uttattūr in the Perambalūr *tāluk* contain numbers of these fossil plants. Their age is considered to be intermediate between the Rājmahāl beds proper and the Jubbulpore group of the Indian Jurassic

rocks. An irregular area nearly 400 square miles in extent, lying between the Cauvery and the Vellār, is occupied by Cretaceous rocks, the fossils in which have excited much interest among scientists. The most noteworthy of the Cretaceous deposits are the coral-reef limestones near Uttattūr and the shell limestone of Garudamangalam, a very fine hard bluish-grey rock, in parts translucent and largely made up of beautifully preserved gasteropoda and lamellibranchiata, often retaining their original polish and sometimes their peculiar coloration. This is the so-called Trichinopoly marble, and is much valued for decorative purposes. Resting on the uppermost Cretaceous rocks on the eastern side of the District is an unfossiliferous gritty sandstone, very frequently ferruginous, which covers the greater part of the Udaiyārpālaiyam *tāluk*, and is itself very largely overlaid with red sands. In the lateritic sands near Nanniyūr, two palaeolithic implements have been found, one sharp-pointed, and the other oval. To the north of the same village is a bed of true flints, said to be unique in Southern India.

The flora of the District presents no points of interest, resembling closely that of the other areas along the eastern side of the Peninsula. The growth on the Pachaimalais is of the drier deciduous type, characterized by the abundance of *Zizyphus* and *Terminalia*.

Leopards and bears are occasionally found in and about the Pachaimalais, but there is no other large game in the District. Snipe, teal, and duck are, however, plentiful.

The Pachaimalai hills are malarious, but elsewhere the climate is on the whole unusually dry and, perhaps on this account, healthy for both natives and Europeans. It is also more than usually hot. The annual mean temperature at Trichinopoly itself (84°) is higher than at any head-quarters town in the Presidency except Tinnevelly, Cuddapah, and Nellore.

The annual rainfall in the District as a whole averages 34 inches, of which 16 are received during the north-east monsoon, 12 during the south-west monsoon, and 5 in April and May. The fall in the northern *tāluks*, especially in Udaiyārpālaiyam and Perambalūr in the north-east corner, is heavier than in the south, averaging 39 inches against 31 in the latter. Few natural calamities have taken place. Cyclones occur but rarely. The country is not especially liable to scarcity, as the Cauvery and Coleroon, on which the greater portion of the irrigated lands are dependent, seldom fail. The chief danger to which the people are exposed is from the floods in these two rivers. These, especially when accompanied by heavy local rainfall, are apt to breach the embankments on either side of the river-beds and cause severe damage to crops. The banks are being gradually strengthened throughout.

History.

The history of Trichinopoly goes back far into antiquity. The capital of the CHOLA kings, who are mentioned in the Asoka inscriptions of the third century B.C., and by Ptolemy in the second century A.D., was originally at Uraiyūr, now a suburb of Trichinopoly city, and in the eleventh century at GANGAIKONDAPURAM in the Udaiyārpālaiyam *tāluk*. The ruins of a splendid temple and tank are still standing at the latter place. About the middle of the thirteenth century the District passed under the Hoysala Ballālas of Dorasamudra and soon afterwards under the PĀNDYAS of Madura, who, in spite of occasional interruptions, continued in possession of it till the beginning of the fourteenth century, when it was overrun by the Muhammadans under Malik Kāfūr, the general of Alā-ud-dīn Khiljī of Delhi. About 1372 it became part of the rising Hindu empire of Vijayanagar, and during the sixteenth century, after the downfall of that dynasty, passed into the hands of the Naik rulers of MADURA. Viswanātha, the founder of this line, is said to have built the greater part of the fort and town of Trichinopoly; and about the middle of the seventeenth century Chokkanātha, another of the line, removed his capital from Madura to Trichinopoly and erected there the building known as the Nawāb's Palace—using, it is said, a great deal of the material of the celebrated palace built at Madura by his famous grandfather, Tirumala Naik.

The last of the Naik rulers died childless in 1731, and the subsequent disputes as to succession were taken advantage of by the Nawāb of Arcot. Chanda Sāhib, his Dīwān, seized Trichinopoly and treacherously imprisoned queen Mīnākshi, one of the claimants. She poisoned herself; and her rivals called in the Marāthās, who took Trichinopoly in 1741 and appointed Morāri Rao, the adventurous Marāthā ruler of Gooty, governor over the town. Two years later the Nizām-ul-mulk, Sūbahdār of the Deccan, invaded the Carnatic and Trichinopoly surrendered to him. He appointed Anwar-ud-dīn as Nawāb of the Carnatic in 1744, and from that date Trichinopoly passed under the nominal rule of the Nawābs of Arcot. During the Wars of the Carnatic, between 1749 and 1761, the famous rock fortress of Trichinopoly underwent more than one siege. On the first occasion (in 1751), Muhammad Alī, the son of Anwar-ud-dīn, and his allies the English were besieged by Chanda Sāhib, an aspirant to the Nawābship of the Carnatic, and his supporters the French. A number of engagements took place between the two parties, chiefly on the Srīrangam island and in the villages bordering on the old road from Trichinopoly to Madras, Clive taking a conspicuous part in the operations; and in the end Chanda Sāhib and the French were defeated.

The second siege occurred in 1753. Nanjarāj, the general of the Mysore army which had been helping the English and Muhammad Alī

in the previous operations, claimed Trichinopoly as his reward, alleging that it had been promised him by a secret treaty with Muhammad Alī. His claim being disregarded, he laid siege to the place and attempted to reduce it by famine. Major Lawrence came to its relief. The French had meanwhile been greatly strengthened by reinforcements sent by Dupleix, and quitting Srīrangam they crossed the Cauvery and encamped on the plain close by the present Fakīr's Rock. Here they were attacked by Lawrence and defeated in the engagement which the historian Orme calls the battle of the Golden Rock. Lawrence proceeded to Tanjore to obtain reinforcements from the Marāthās. On his return he found that the French had blockaded the city on every side. He provoked them to a general engagement and defeated them again at the battle of the Sugar-loaf Rock (now called the Golden Rock), not far from the present Central jail.

When war broke out again in 1756, the French under D'Auteuil once again tried to take Trichinopoly. The vigilance of Captain Calliaud, who hurried to its relief by forced marches from Madura, frustrated their designs. Their last attempt upon the Rock was in 1759, when a detachment sent by Lally occupied Srīrangam. Lally's defeat at Wandiwāsh upset his plans; and the fall of Pondicherry early in 1761, which established the success of the British arms in Southern India, and the Treaty of Paris in 1763, which recognized Muhammad Alī as Nawāb of the Carnatic and placed Trichinopoly under his government, ended the conflict between the two nations. In 1768 Haidar Alī of Mysore devastated the District, and on the renewal of the war in 1780 he invested its capital. His defeat at Porto Novo in the succeeding year compelled him to withdraw. The only other attempt upon the fort was made by his son and successor Tipū in 1790, but it ended in nothing.

In 1781 the Nawāb assigned the revenues of the Carnatic, including Trichinopoly, to the British; and civil officers, known as Superintendents of the Assigned Revenue, were for the first time appointed to administer them. In 1792 the assignment was surrendered to the Nawāb, but Trichinopoly continued to be commanded by British officers. In 1801 it was ceded to the British, with the rest of the Carnatic, by the Nawāb of Arcot.

Prehistoric kistvaens occur in the Perambalūr *tāluk*, in one of which, opened in 1897, were found pieces of human bones, a small polished earthen pot 6 inches in diameter, and the point of an iron sword. Some Roman coins have also been discovered. Buddhist images of stone exist in the Udaiyārpālaiyam, Kulittalai, Perambalūr, and Trichinopoly *tāluks*. The District is supposed to have been situated at the tri-junction of the territories of the Pāndya, Chola, and Kongu dynasties; and tradition places one of their boundaries in the extreme

west along the river Karaipottānār (the name means 'the river that marks the boundary'), which falls into the Cauvery about 12 miles to the west of Musiri, and along a large earthen embankment which continues the line of the river southwards into the Kulittalai *tāluk* on the other side of the Cauvery. The hamlet of Palayasengadam in this *tāluk* is locally declared to have once been a Chola capital, the name being said to be a contraction of Palaya Jeyamkondacholapuram, or 'the old town of the victorious Chola.' An extensive ruined camp close by and a very perfect and well-constructed stone tank are pointed out in support of the tradition. The later Jeyamkondacholapuram is in the Udaiyārpālaiyam *tāluk*.

Of the temples of archaeological interest the most important are those on the Trichinopoly Rock and at Srīrangam (and Jambukeswaram), Gangaikondapuram, and Samayapuram, while the most notable piece of civil architecture is the palace of the *zamīndār* of Udaiyārpālaiyam.

Population.

The District comprises 937 towns and villages. The population in 1871 was 1,200,408; in 1881, 1,215,033; in 1891, 1,372,717; and in 1901, 1,444,770. The increase during these thirty-six years has been at about the same rate as in the rest of the Presidency, namely between one-fifth and one-fourth, and Trichinopoly is now one of the half-dozen most densely peopled Districts in Madras. The very small advance between 1871 and 1881 was due to the great famine of 1876–8. The District is divided into the five *tāluks* of KULITTALAI, MUSIRI, PERAMBALŪR, TRICHINOPOLY, and UDAIYĀRPĀLAIYAM, statistical particulars of which in 1901 are appended:—

Tāluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Udaiyārpālaiyam	753	2	228	300,708	399	+ 3·5	14,384
Perambalūr	674	...	128	204,257	303	+ 4·7	8,022
Musiri	762	1	156	294,383	386	+ 4·2	14,347
Kulittalai	901	...	229	263,331	292	+ 8·1	11,931
Trichinopoly	542	2	191	382,091	705	+ 5·9	46,843
District total	3,632	5	932	1,444,770	398	+ 5·2	95,527

The head-quarters of the first of these are at Jeyamkondacholapuram, while those of the others are at the places from which they are named. The chief towns are the municipalities of TRICHINOPOLY (population, 104,721) and SRĪRANGAM (23,039), and the Unions of TURAIYUR (12,870), UDAIYĀRPĀLAIYAM (7,553), and ARIYALŪR (7,370).

Out of every 100 of the people, 92 are Hindus, 3 are Musalmāns, and

5 are Christians. These last increased during the decade ending 1901 considerably faster than the population generally. Tamil is the prevailing vernacular, being spoken by 84 per cent. of the population, but 12 per cent. speak Telugu (in the Musiri *tāluk* the percentage is as high as 21), and 2 per cent. Kanarese.

About 35,000 people (of whom 29,000 are the shepherd Kurumbas) belong to Kanarese castes, and 178,000 (among whom the Kāpus, Balijās, Chakkiliyans, and Oddes are the most numerous) are Telugus by race. The rest of the Hindu population consists mainly of Tamils. The five castes which occur in the greatest strength, all being usually cultivators, are called Palli (148,000), Paraiyan (136,000), Ambalakāran (129,000), Vellāla (112,000), and Pallan (109,000). The third of these, the Ambalakārans, are more numerous in Trichinopoly than in any other District. So also are the two castes of the Muttiriyans and the Urālis, who are in some obscure manner connected with them, being perhaps descended from the same parent stock. Other castes which are found here in greater strength than elsewhere are the Sudarmāns and Nattamāns. These two bodies of agriculturists are singling themselves out by following some of the Brāhmanical customs. Of the Musalmāns the majority are Labbais, a mixed race of enterprising traders, sprung from unions between immigrant followers of the Prophet and Tamil women.

Except that the people are even more exclusively agricultural than usual, 73 per cent. of them subsisting by the land and 2 per cent. more by pastoral callings, their occupations in the mass present few peculiarities.

Of the 76,660 Christians in the District in 1901, 72,352 were Roman Catholics, and of these 71,961 were natives. In 1623 Robert de Nobili, of the famous Madura mission, established a Jesuit station at Trichinopoly. In the next century progress was checked here, as elsewhere, by Papal decrees prohibiting certain Hindu customs tolerated till then among converts, by the cessation of support from Portugal, and by the suppression of the Society of Jesus in 1773. The Society was, however, re-established in 1814, and in 1836 the Madura mission was entrusted to its care. Father Louis Garnier de Falton, who was put in charge of the congregation of Trichinopoly, revived the work of the mission, which had sunk very low, and built the cathedral in the cantonment and a house which he originally intended for a college, but which is now used as a residence by the bishop and his clergy. In 1846 the Right Rev. Alexis Canoz, S.J., was appointed first Vicar Apostolic; and when the Hierarchy of India was constituted in 1886, the Vicariate was made into a diocese under it and the episcopal residence was located at Trichinopoly. The portion of the District lying to the south of the Cauvery and the Coleroon belongs to this diocese, while that on

the north belongs to the diocese of Kumbakonam. The former diocese is suffragan to the metropolitan see of Bombay, and the latter to the see of Pondicherry. The Goanese Roman Catholic congregation is scattered about in small communities, under the jurisdiction of the arch-diocese of Goa and the diocese of San Thomé of Mylapore.

The Protestant missions working in the District are the Society for the Propagation of the Gospel, the Leipzig Lutheran, and the Wesleyan Mission. From 1762 to 1778 Swartz, the famous missionary of the Tranquebar Danish Mission, worked at Trichinopoly with the help of the Society for the Promotion of Christian Knowledge, and after him the Rev. C. Pohle carried on the work for over forty years. In 1825 the S.P.G. took it up, and continues to do considerable work to this day. The Wesleyan Missionary Society began its labours in 1847, and the Leipzig Lutheran Mission in 1850. The converts belonging to these three missions number about 2,700, 400, and 1,200 respectively.

Agriculture.

Of the total area of the District, according to the classification at settlement, 6 per cent. is alluvial land, 40 per cent. black soil, and 54 per cent. red earth. The first of these occurs in the valleys of the Cauvery and Coleroon. The *regar*, or black cotton soil, prevails in the uplands lying to the north of those rivers, occupying about two-thirds of the area in the eastern portion; towards the west black soils are found in the lower ground, but are overlaid with sand on the higher levels. South of the Cauvery the upland is generally covered by poorer soils, chiefly of a gravelly or sandy nature, and over wide tracts these are so impregnated with soda salts as to be almost bare of vegetation. Both 'wet' (irrigated) and 'dry crops' are mostly matured by means of the north-east monsoon in October and November, but cultivation is begun before this sets in.

Of the 3,632 square miles of the District, *ryotwāri* and 'minor *inām*' villages occupy 2,820 square miles, *zamīndāris* 634, and 'whole *inām*' villages 178. Agricultural statistics are available for only 3,041 square miles, of which, in 1903–4, 315 square miles (10 per cent.) were forest, 429 (14 per cent.) were not available for cultivation, 271 (9 per cent.) were cultivable waste not yet taken up for cultivation, 507 (17 per cent.) current fallows, and 1,519 (50 per cent.) formed the area cropped. Statistics by *tāluks* for that year are given in the table on the next page, in square miles.

The staple food-grains of the District are rice, *cholam* (*Sorghum vulgare*), *cambu* (*Pennisetum typhoideum*), *varagu* (*Paspalum scrobiculatum*), and *rāgi* (*Eleusine coracana*). The area under these crops in 1903–4 amounted to 1,320 square miles, or 78 per cent. of the total area cultivated, the respective percentages under each being 21, 16, 15, 15, and 11. Other food-grains occupied 9 per cent. The only other crops worth notice are gingelly (*Sesamum indicum*, 22,000 acres),

ground-nuts (35,000), and cotton (17,000). The Udaiyārpālaiyam and Perambalūr *tāluks* mainly produce *cambu* and *varagu*, Musiri and Kulittalai *cholam* and *cambu*, and Trichinopoly *cholam* and *rāgi*. Cotton is grown mostly in Musiri and Perambalūr, and ground-nuts almost exclusively in Udaiyārpālaiyam. The seed of the ground-nut introduced from Mauritius is said to give a much better yield than native seed. Otherwise there have been no recent improvements in agricultural practice. The crops raised on the Pachaimalais do not differ materially from those cultivated in the plains.

Tāluk.	Area shown in accounts.	Cultivated.	Irrigated.	Cultivable waste.	Forests.
Udaiyārpālaiyam .	546	361	31	43	28
Perambalūr . .	657	401	37	108	83
Musiri . . .	698	417	73	69	154
Kulittalai . .	597	476	53	20	40
Trichinopoly . .	543	371	145	31	10
Total	3,041	2,026	339	271	315

As compared with the average of the five years before the famine of 1876–8, the area in occupation during the quinquennium preceding the resettlement of the District in 1894–5 showed an increase of 8·3 per cent., and the average of the eight years succeeding this a further increase of 9·1 per cent. The average area occupied in the five years before 1901 rose by 1·2 per cent. above the average of the five years preceding 1891, compared with an increase in the population of 5·2 per cent. The population is thus increasing more rapidly than the area under cultivation. About 300 square miles are still available for cultivation, nearly two-thirds being in the Perambalūr and Musiri *tāluks*. The ryots have availed themselves of the Land Improvement Loans Act only to a limited extent, Rs. 94,000 having been advanced between 1888 and the end of June, 1903. The money has been mostly applied to the construction and repair of wells.

Both bullocks and buffaloes are used for agricultural purposes, but they are usually undersized and of no well-defined breed. They are bought and sold at the weekly local markets, of which those at Manappārai, Turaiyūr, and Ariyalūr are the most important. A better class of animals, imported from Salem and Mysore, are sold at the annual Samayapuram cattle fair. But latterly this has unfortunately been closed to bullocks from these two places, lest plague might be introduced into the District. Sheep and goats are of the usual varieties, and are kept chiefly for the sake of their manure and skins.

Of the total area of *ryotwāri* and 'minor *inām*' land cropped (1,519 square miles), 339 square miles, or 22 per cent., are irrigated. Of this, 160 square miles, or nearly half, are watered by channels from the

Cauvery and Coleroon, 91 square miles from tanks, and 77 square miles from wells. The principal channels are ancient works constructed by former native governments. They are supplied by *korambus* or temporary dams annually constructed in the bed of the rivers, and are used not only for direct irrigation, but also to conduct water to the tanks. They are annually washed away when the rivers rise in flood. Up to forty years ago they were managed by the villagers, but they are now under the control of Government. The whole system is still a rough-and-ready one, and stands in marked contrast to the splendid irrigation works which span the Cauvery and Coleroon (*see* CAUVERY) within the District for the benefit of the Tanjore delta immediately adjoining. The tanks in the District number 1,590, and the wells, which irrigate nearly as wide an area, 37,000.

Forests.

Trichinopoly contains 305 square miles of 'reserved' forest and 10 square miles of 'reserved' lands. The Pachaimalais contain some teak, black-wood (*Dalbergia latifolia*), sandal-wood, and bamboos, as well as *Albizzia*, *Terminalia*, and *Pterocarpus*. The Reserves in the plains and on the low hills, as well as the plantations on the banks of the Cauvery and Coleroon, are chiefly used as fuel reserves. Several varieties of *Acacia* (*arabica*, *planifrons*, and *leucophlaea*) abound in the uplands, while the trees principally grown in the plantations are *Acacia arabica*, casuarina, *kodukkāpuli* (*Pithecolobium dulce*), *vāgai* (*Albizzia Lebbek*), *gette* (*Dalbergia Sissoo*), *nīm* (*Melia Azadirachta*), and *nāval* (*Eugenia Jambolana*). The forest area in the adjoining Tanjore District being inconsiderable, the Forest officer of Trichinopoly is in charge of that District also.

Minerals.

There is no mining in the District, except some surface quarrying of laterite, white clays, and granite. Of the last, the black hornblendic variety is much prized and largely used in building temples. The clays are white varieties, used for pottery and for painting the *nāmams* or sect-marks worn by Vaishnavites on their foreheads. The pottery is of the ordinary designs; when burnt, the clay assumes a bluish-white tinge. The shell marble of Garudamangalam is worked to a small extent. Crude and refined saltpetre are made in considerable quantities. The unworked minerals are iron, limestone, phosphatic nodules, gypsum, mica, magnesia, and garnet. Phosphatic nodules containing about 57 per cent. of phosphate of lime are found in the neighbourhood of Uttattūr, over a tract of country 1 mile in width and 10 miles in length, both on the surface and imbedded in the clay; but their conversion into soluble manure is attended with some difficulty. Gypsum occurs in the neighbourhood of Uttattūr and Maruvattūr in fibrous or transparent plates; but it cannot be obtained in any quantity free from clay, which destroys its

whiteness. The mica found near Manappārai will not divide properly into scales. Magnesite strings in travertine or calcareous tufa, apparently due to the action of old thermal springs, are met with at Tripangali and Vālikandapuram. In one place in the crystalline limestone massive garnet (calderite) has been found.

Trade and communications.

The arts and manufactures of the District are unimportant. Weaving occupies the largest number of persons, but as a rule only coarse fabrics are made. Fancy cloths of cotton and silk with borders of silver thread are, however, made by the Patnūlkārans of Trichinopoly city. These are worn by the richer classes of Muhammadans, and are exported to various places in the Presidency. The silk is imported raw, and is cleaned and dyed by the weavers. The silver thread used for the borders is generally imported from Europe, but a specially good and proportionately expensive variety is sometimes obtained from Kumbakonam. Woollen blankets of an inferior kind are made by the Kurumbas in many villages, especially in the Musiri and Perambalūr *tāluks*. They are generally woven of black wool clipped from sheep reared by the Kurumbas themselves. White blankets and woollen and cotton carpets are also manufactured to a limited extent.

Trichinopoly gold and silver ware was once famous and in great demand; but a decline has occurred owing to competition from Madras city. There is still, however, a fair local demand. The work is rougher than the frosted silver ware made in Madras, but is by no means destitute of fancy and originality. Brass and copper vessels and plates are made at Trichinopoly and a few other villages. The copper vessels are made by Goanese native Christians. They are devoid, or nearly so, of all ornament. Worn-out copper coin, sold at the Treasury for its value as metal, is used for casting idols and for making brass. A well-known artificer of brass and copper idols lives near Lālugudi village. Glass bangles are made by Gāzula Balijā Chettis in the south of the District, from earth obtained from Pudukkottai territory and in the Udaiyārpālaiyam *tāluk*. The estimated value of the annual production is about Rs. 12,000. There are also a few manufacturers of ornaments such as pith models, encrusted metal ware, and paintings on talc and ivory. The two former, and also the silk cloths already mentioned, gained prizes at the Delhi Darbār Exhibition, the pith-work receiving, in addition, a bronze medal. This last is cheap and decidedly effective. Favourite subjects for it are models of the various famous temples, which are one of the best means of giving an untravelled European an idea of the characteristics of South Indian Hindu architecture. The lightness of these models and the ingenious way in which they are packed renders them suitable for export. They are not as well-known as they should be.

Among the manufactures and industries may be mentioned two screw cotton-presses, one at Trichinopoly and the other at Ariyalūr, in which about 600 tons of cotton are pressed annually. Seven tanneries are working in and about Trichinopoly city. The value of the annual output of tanned skins is estimated at over 5 lakhs, and the leather is largely exported to England. Outside the Madras Presidency, Trichinopoly city is best known for its cigars, of which some 12,000,000, valued at about Rs. 75,000, are annually manufactured and exported. The tobacco leaf is mostly obtained from DINDIGUL. The industry has suffered heavily from the competition of Madras and Dindigul cigars wrapped with the milder leaf grown in Java and Sumatra, but good plain cheroots are still turned out at reasonable prices. There are several iron-screw oil-presses in Trichinopoly city, in which lamp-oil is extracted from castor-seed. The cold-drawn oil is heated before being put into casks for export. Without this precaution it is apt to become rancid.

The chief exports of the District are cereals and pulses, chillies, cotton, gingelly, ground-nuts, plantains, coco-nuts, betel-leaf, jaggery (coarse sugar), tanned hides and skins, castor-oil, oil-cake, saltpetre, stone, and cigars. Most of these are sent to adjoining Districts. Ground-nuts, which are now largely grown in the Udaiyārpālaiyam *tāluk*, are exported to Kumbakonam and Cuddalore for English, French, and native firms. Tanned hides and skins are sent to Madras city and thence to England. Plantains are exported to the State of Mysore, and coco-nuts as far north as the Nizām's Dominions. Cigars are sent all over India and also abroad. Cotton is railed to Madras and Virudupatti. Oil-cake goes to Tuticorin, probably for export by sea to Ceylon. The chief imports are grain and pulse from Coimbatore; castor-seeds from the same District and Salem; cotton seeds from Virudupatti; coco-nut oil, pepper, and areca-nuts from Malabar; raw tobacco from Madura and Coimbatore; kerosene oil from Madras; piece-goods and twist from Madras and Bombay; salt and salted fish from Tanjore and Tinnevelly. Trichinopoly city is the chief centre of general trade, as a large portion of the rail-borne traffic has to pass through it, the tract of country to the north of the Cauvery and Coleroon rivers being accessible only by the bridges which cross these rivers near the city. Considerable traffic between the Udaiyārpālaiyam *tāluk* and Kumbakonam passes over the bridge on the Lower Anicut (*see* CAUVERY) across the Coleroon. Among minor centres of trade may be mentioned Ariyalūr, where there is a cotton-press, Perambalūr, and Turaiyūr. The principal trading castes are the Chettis and Labbais. There are several Nāttukottai Chettis, Gujarātis, and Mārwāris in Trichinopoly city. Most of the internal trade is effected through the weekly markets, of which twenty-four are under the control

of the local boards. The right to collect fees at these was leased in 1903-4 for Rs. 14,000. The most important are at Ariyalūr, Manappārai, and Turaiyūr. It is in contemplation to expend the fees collected at the first of these in bridging a large river which crosses the road from that town to Tanjore.

The railways of the District include the main line of the South Indian Railway, and its branch from Trichinopoly to Erode. The former enters the District from Tanjore on the east, passes through its head-quarters, and thence runs south-westward across it. The Erode branch proceeds westward from Trichinopoly along the southern bank of the Cauvery into Coimbatore District. The section from Tanjore to Trichinopoly and thence to Erode was originally built on the standard gauge, and was opened for traffic as far as Trichinopoly Fort in 1862, and to Karūr (in Coimbatore) in 1866. The line to Trichinopoly was converted to metre gauge in 1875, and that to Erode in 1879.

The District board has recently begun to levy a cess of 3 pies in the rupee of land assessment for the construction of such local steam-tramways or railways as may eventually be decided upon. It is also in contemplation to build a standard-gauge line, connecting with the other great broad-gauge systems, from Arkonam through Tirukkoyilūr and Trichinopoly and on to Rāmnād and the proposed port on Pāmban island. This would greatly benefit the north of the District, which is at present much isolated.

The total length of metalled roads is 596 miles, and of unmetalled roads 145 miles. With the exception of about 37 miles of unmetalled roads maintained by the Public Works department, all these, as well as the Cauvery and Coleroon bridges, are at present in charge of the local boards. Avenues of trees have been planted along 663 miles. The chief lines are the Madras trunk road from the north of Perambalūr to Madura, and a series of lesser routes radiating from Trichinopoly city to Karūr, Dindigul, Pudukkottai, Tanjore, and Udaiyārpālaiyam, and to Salem District through Perambalūr, Turaiyūr, and Musiri. The large number of these roads is a severe tax upon the resources of the boards. Their chief defect lies in the many small unbridged streams which cross them. These become torrents in the monsoon and sand-heaps in the dry season. Tolls are levied at fifteen places, the right to collect them being leased annually. The lease fetched Rs. 55,000 in 1903-4.

There are thirty-five ferries across the Cauvery and Coleroon, the boats used being circular coracles made of hides stretched on a light framework. These ferries were leased in 1903-4 for Rs. 15,000. The most important is that which plies between the towns of Musiri and Kulittalai. The chief bridges are that across the Cauvery connecting

Trichinopoly with Srīrangam island and town, and that over the Coleroon joining the opposite side of the island with the northern bank of that river. The Grand Anicut and Upper Anicut (*see* CAUVERY) both carry bridges; but as each of these crosses one of the two rivers, they are useful only for the limited amount of traffic which goes from the mainland to the extremities of the Srīrangam island. The Lower Anicut bridge, as already mentioned, forms an important outlet for traffic.

Famine.

Trichinopoly appears to have suffered in the famines of 1804, 1807, 1811, 1814, and 1833; but no particulars are available. During the famine of 1866 an average of 2,495 people were gratuitously relieved daily during the four months August to November, but the number on relief works was very small. The maximum number relieved in any month was 4,166 in September, 1866, and the total cost to the state was only Rs. 6,000. In the famine of 1876–8, the average number of people relieved during the twenty-two months from December, 1876, to September, 1878, was 4,423: namely, 2,318 on works and 2,105 gratuitously. The maximum number relieved in any one month was 20,550 (December, 1877). The cost of the famine to the state was 5 lakhs (1 lakh for gratuitous relief and 4 for works). The District suffered comparatively little, and distress was due less to failure of crops than to high prices caused by the exportation of grain to other areas. There has been no famine since.

Administration.

For administrative purposes the five *tāluks* are grouped into three subdivisions, all the officers in charge of which are usually Deputy-Collectors recruited in India. These are the Trichinopoly subdivision, consisting of the Trichinopoly *tāluk* only; the Musiri subdivision, comprising Musiri and Kulittalai; and the Ariyalūr subdivision, comprising Perambalūr and Udaiyārpālaiyam. A *tahsīldār* and a stationary sub-magistrate are posted at the head-quarters of each *tāluk*, in addition to deputy-*tahsīldārs* at Trichinopoly city, Lālugudi (Trichinopoly *tāluk*), Turaiyūr (Musiri *tāluk*), Manappārai (Kulittalai *tāluk*), and Kīlapalūr (Udaiyārpālaiyam *tāluk*). These officers have both revenue and magisterial powers. There are also benches of magistrates for Trichinopoly city and Srīrangam. The superior staff of the District consists of the usual officers. The Collector is *ex-officio* Political Agent for Pudukkottai State. Trichinopoly city is the head-quarters of a Deputy and an Assistant Commissioner of Salt and Abkāri Revenue, of a Superintending Engineer, and of the South Indian Railway.

Civil justice is administered by a District Judge and the four District Munsifs of Trichinopoly, Srīrangam, Kulittalai, and Ariyalūr. The two former both hold their courts in Trichinopoly city and have jurisdiction

over different parts of the Trichinopoly *tāluk*, the Srīrangam Munsif taking, roughly speaking, the part of it which lies north of the Cauvery, and the Trichinopoly Munsif the rest. The other two Munsifs try cases arising in the subdivisions of Musiri and Ariyalūr. Criminal justice is administered on the usual lines, there being a Court of Sessions besides the subordinate magistrates already mentioned and the three divisional officers. The District is no more addicted to crime than its neighbours, but the system of paying rewards to thieves for the recovery of stolen property instead of reporting the thefts to the police prevails to an unusual extent and takes unusual forms. The Kallans, the most criminal caste, exact, for example, what amounts to blackmail from all classes, even from Europeans, by ensuring that those households which employ a watchman belonging to this community shall be exempt from thefts, but that those which do not shall suffer proportionately. This practice is a relic of the old native police system, under which every one paid *kāval* ('watch') fees, and the watchmen were bound to make good any losses due to theft; and its eradication is a matter of the greatest difficulty. In Madura, recently, the whole population combined against these exactions of the Kallans, and after several riots and some bloodshed were successful in breaking them down to some extent.

No detailed information is available regarding the revenue system in force under the Chola and Naik dynasties, but it is known that the land tax collected by them amounted as a rule to half the gross produce and often more. Under Muhammadan rule, which immediately preceded the British occupation, the revenue was collected in kind in irrigated *tāluks*, the crops being generally equally divided between the government and the ryot after a deduction of 5 per cent. of the gross produce had been made for cultivation expenses. In certain cases, however, the ryots were allowed to take from 55 to $68\frac{3}{4}$ per cent. of the produce. The fees due to the village servants, which varied from 23 to 28 per cent. of the gross produce, were paid by the ryots out of their share. In the 'dry' portion of the country the land tax was collected in money, the rates in some villages being based upon the crop raised and in others upon the nature of the soil. The sale of grain was a strict government monopoly and large profits were made from it.

When the country came under the British Government, the Muhammadan system was at first adhered to, except that payments in kind were commuted into a money assessment. But the resources of the country had been exhausted by previous misgovernment and by war and famine, and this land tax pressed heavily on the people; the evil was aggravated by frequent floods, by deficient rainfall, and by a fall in the price of food-grains. Various experiments were made to lighten the burden—a triennial lease, a decennial lease, a settlement with each ryot

instead of with the head of the village or the village community, the reduction of the assessment, and the measurement of the fields and classification of their soils by the *karnams* or village accountants; but up to 1854 agricultural depression continued to be more or less marked. One great reason was the extraordinary fall in the price of produce, making all fixed money-rents difficult to meet, which was due to causes in operation throughout India. Owing to the slow development of export trade and the remittance of a considerable amount of specie to England, the currency of the country had become insufficient for its requirements under the altered conditions brought about by British rule: namely, the development of internal traffic, and the substitution of cash payments for payments in kind both in the receipt of taxes and the disbursements by Government. The revenue system was moreover very complicated and required amendment and simplification, and the need of a professional survey and settlement was much felt.

The survey was commenced in 1854-5 and the settlement in 1858-9. Soils were classified on a fixed plan, and the rates of assessment fixed were twenty-one in number for irrigated lands (varying from Rs. 7-8 to R. 1 per acre) and nineteen for 'dry' lands (varying from Rs. 3-8 to 4 annas). The averages for 'wet' and 'dry' lands were Rs. 4-4 and about R. 1 respectively. These rates were introduced in 1865; and, though the survey had shown that the area under cultivation had been understated in the old accounts by 7 per cent., they resulted in a decline of 25 per cent. in the revenue demand for the District. Irrigation of second crop was charged from one-third to one-fifth (according to the quality of the source from which it was watered) of the assessment on the first crop, subject to a minimum charge of R. 1 per acre. The cultivated land on the Pachaimalai hills was assessed at 8 annas and 4 annas per acre, the latter rate being applied to the *punalkādu* or hoe cultivation in vogue there. All these assessments included a road-fund rate of 2 per cent. on the land revenue, but not the fees to village servants, for which a cess of 6¼ per cent. on the revenue was separately levied.

This settlement continued in force for the usual period of thirty years. In July, 1891, a new survey was begun, which was completed in 1893-4, and in the following year a new settlement was made. In the Cauvery valley, and in the case of lands under the Coleroon, Amarāvati, and Nandiyār rivers, the 'wet' lands, which had for the most part been under-assessed before, and the 'dry' fields among them were classified afresh on the lines previously adopted in the adjoining District of Tanjore. For this tract the revised rates were twelve in number for 'wet' land, varying from Rs. 12 to Rs. 3-8 per acre, and eleven in number for 'dry' land, varying from Rs. 7 to 8 annas. Those fields in the Cauvery valley which had a sufficient and steady supply of water

for two crops were registered as permanent double-crop lands, and were charged one and a half times the single-crop assessment, whether a second crop was raised or not. In other parts of the District, composition for the second-crop charge was allowed at one-third, one-fourth, one-fifth, or one-sixth of the first-crop assessment, according as the land was watered by irrigation works of the second, third, fourth, or fifth classes respectively. No composition was allowed in the case of sources of the first class, but half the first-crop assessment was levied. In these parts, the 'wet' and 'dry' assessments were enhanced, in proportion to the rise in prices, by about 20 and 12½ per cent. respectively; there was no reclassification of the soils, but certain tanks were raised from a lower to a higher class with reference to their improved capacity for irrigation. The average assessment throughout the District on 'dry' land is Rs. 1-0-3 per acre (maximum Rs. 5, minimum 8 annas), and on 'wet' land Rs. 6-5-11 (maximum Rs. 12, minimum Rs. 3-8-0).

The effect of this resettlement was to raise the land revenue demand from Rs. 15,97,000 to Rs. 19,12,000, or by 19·7 per cent.; but the increase has not injuriously affected agricultural interests, as appears from the facts that grain prices remain steady at a higher level than formerly, and that the price of land has not fallen. The rates adopted do not include the road cess of 2 per cent., as in the previous settlement; in its place the land cess is levied separately as elsewhere at one anna in the rupee of the land revenue, or 6¼ per cent.

The revenue from land and the total revenue in recent years are given below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	16,10	18,62	26,72	24,89
Total revenue . .	19,90	26,28	36,88	37,55

Outside the two municipalities of TRICHINOPOLY and SRĪRANGAM, local affairs are managed by the District board and by the three *tāluk* boards of Trichinopoly, Musiri, and Ariyalūr, the areas under the control of which correspond with the three subdivisions of the same names. The total expenditure of these boards in 1903-4 amounted to Rs. 3,37,000, of which Rs. 1,91,000 was laid out on roads and buildings. The chief source of income is, as usual, the land cess. Thirteen Union *panchāyats* have been constituted under the Local Boards Act to look after sanitation in the smaller towns.

The District Superintendent is also *ex-officio* Superintendent of the police in the Pudukkottai State. In Trichinopoly there are 56 police stations and one outpost; and the strength of the force in 1904 was 11 inspectors, 87 head constables, and 624 constables, besides 936 rural police or *talaiyāris*. The Central jail in Trichinopoly city holds

1,373 prisoners. The convicts are largely employed in weaving blankets for native troops and for prisoners from the wool removed from skins before tanning. Hand-looms of the usual pattern are employed. Besides the Central jail, 9 subsidiary jails contain accommodation for 152 male and 55 female prisoners.

According to the Census of 1901, Trichinopoly ranks ninth among the 22 Districts of the Presidency in the literacy of both its male and female population, the percentages of persons able to read and write being 12·9 for males, 0·8 for females, and 6·6 for the two sexes together. Education, as might be expected, is most advanced in the Trichinopoly *tāluk*; Musiri, Udaiyārpālaiyam, and Kulittalai may be ranked together; while Perambalūr is the most backward. In 1880-1 pupils under instruction numbered 10,786; in 1890-1, 24,728; in 1900-1, 33,325; and in 1903-4, 37,318. On March 31, 1904, the number of educational institutions in the District was 1,024, including 738 classed as public and 286 as private. Of the former, 697 were primary, 30 secondary, and 9 training or other special schools, and there were 2 Arts colleges in Trichinopoly city, maintained by the Jesuit Mission (St. Joseph's) and the Society for the Propagation of the Gospel. Girl pupils numbered 4,167. Five institutions were managed by the Educational department, 94 by the local boards, and 13 by the municipalities, while 365 were aided from public funds, and 261 were unaided but conformed to the rules of the department. The five Government schools consist of a training school for masters in Trichinopoly city, with an upper primary school attached; a lower secondary vernacular school for girls at Srīrangam; and the primary girls' schools at Perambalūr and Jeyamkondacholapuram. The Society for the Propagation of the Gospel and the Roman Catholic mission each have a school for the training of mistresses. The technical schools include two which teach shorthand and typewriting respectively, and the Puttūr and Irungalūr industrial schools for women managed by the S.P.G., in which the girls are instructed in lace-making. The District board maintains an itinerating sessional school, in which village schoolmasters are prepared for the primary examination, for a few months at certain centres. Of the male population of school-going age 22 per cent. are in the primary stage of instruction, and of the female population of the same age 4 per cent. The corresponding percentages for Musalmāns (who, however, form only a small fraction of the population) are 75 and 4. Panchama pupils to the number of 2,614 are under instruction at 68 schools specially maintained for depressed castes. The total expenditure on education in 1903-4 was Rs. 2,96,000, of which Rs. 1,46,000 was met from fees. The outlay on primary education was nearly 41 per cent. of the total.

The District possesses 4 hospitals and 11 dispensaries. Two of the

former belong to the municipalities of Trichinopoly and Srīrangam, one, at Irungalūr, to the S.P.G., and the fourth, at Ariyalūr, to the *tāluk* board. The dispensaries are all under the management of the local boards. The hospitals contain accommodation for 78 males and 55 females. The total number of in-patients treated in 1903 was 1,900, and of out-patients 191,000; the number of operations performed was 5,800. The expenditure amounted to Rs. 44,000, the greater part of which was met from Local and municipal funds. In addition, a police hospital and a charitable dispensary of the Jesuit Mission are maintained at Trichinopoly. The patients treated in these in the same year numbered 300 and 30,000 respectively.

As regards vaccination in rural tracts, the District occupies a middle place. In 1903-4 the number of successful vaccinations was 28 per 1,000 of the population, the mean for the Presidency being 30. In the municipalities of Trichinopoly and Srīrangam the proportion was 75 and 53 respectively, the Presidency average for all municipalities being 50. Vaccination is compulsory in these two towns and in eight of the thirteen Unions.

[F. R. Hemingway, *District Gazetteer* (1906).]

Trichinopoly Tāluk.—Central *tāluk* in the District of the same name, Madras, lying between 10° 38′ and 11° 3′ N. and 78° 28′ and 79° 1′ E., with an area of 542 square miles. It forms a revenue subdivision by itself; and its chief town, TRICHINOPOLY CITY (population, 104,721), is the head-quarters of the subdivision as well as of the District. The population in 1901 was 382,091, compared with 360,829 in 1891. The number of towns and villages is 193, including the municipality and island of SRĪRANGAM (population, 23,039). The *tāluk* is divided into almost equal portions by the valley of the Cauvery and Coleroon. The demand for land revenue and cesses in 1903-4 amounted to Rs. 8,13,000.

Trichinopoly City (*Tiruchchināppalli*).—Head-quarters of the District and *tāluk* of the same name, Madras, situated in 10° 49′ N. and 78° 42′ E., on the right bank of the Cauvery river, 195 miles from Madras by road and 250 miles by the South Indian Railway. It is the third most populous town in the Presidency. It once held the second place, but at the Census of 1901 Madura outstripped it, although during the decade ending with that year its inhabitants increased by 16 per cent. Of the total population (1901) of 104,721, 76,927 are Hindus, 14,512 Christians, and 13,259 Musalmāns. In 1891 its inhabitants numbered 90,609; in 1881, 84,449; and in 1871, 76,530. The fact that it is an important railway junction has had much to do with its rapid growth.

Trichinopoly is a very ancient place. Popular legend carries its history back beyond the days of the Rāmāyana. Later, the capital

of the Chola kingdom was once at Uraiyūr, a suburb of the town which is identified with the Ὄρθουρα mentioned by the Greek geographer Ptolemy (about A.D. 130). The local Purāna or history contains a story of the destruction of Uraiyūr by a shower of sand. There was a flower garden, says the tale, on the Trichinopoly Rock, in which the sage Sāramuni raised *sevvandi* (chrysanthemum) flowers for the worship of Siva. A gardener stole some of the flowers and presented them to the Chola king, Parāntaka, daily. When the theft was discovered and the gardener was arraigned before the king, the latter pardoned him. Siva was very wroth thereat, and turned his face towards Uraiyūr and rained sand on it. The king and queen fled, and as they ran he was buried in the storm of sand; she fell into the river, but was washed ashore and protected by a Brāhman. She gave birth to a son who was afterwards called to the throne, and was identified as the rightful heir by an elephant and was consequently called Karikāla. It has been surmised that this account has reference to a Pāndyan invasion. The king Parāntaka is probably Parāntaka II, whose son was Aditya II, *alias* Karikāla, reigning in the tenth century.

Inscriptions have been found in the Srīrangam and Jambukeswaram temples which show that as late as the fifteenth and sixteenth centuries descendants of the Chola dynasty reigned at Uraiyūr as vassals of Vijayanagar. In the thirteenth century the Hoysala dynasty appears to have held sway here for a time, with its provincial capital at Samayapuram. The Musalmāns succeeded in the fourteenth century, and then the Vijayanagar dynasty. During the rule of the Naiks of Madura, Trichinopoly was an important place and for some time their capital. The founder of that dynasty, Viswanātha Naik, is supposed to have fortified the town and constructed the Teppakulam reservoir. One of his successors, Chokkanātha, erected the building known as the Nawāb's Palace, obtaining the necessary materials by demolishing portions of the famous Tirumala Naik's palace at Madura. The building is also known as Mangammāl's Palace, after the Naik queen of that name.

In the Wars of the Carnatic, Trichinopoly (*see* TRICHINOPOLY DISTRICT) was the scene of frequent hostilities between the English and the French. After the country was ceded to the Company it continued for many years to be an important military station. Troops were first stationed within the fort, next at Uraiyūr, and subsequently in the present cantonment. The cantonment was formerly garrisoned by European and Native regiments; but in 1878, when the Afghān War broke out, the whole of the European contingent was removed and the garrison subsequently reduced to two regiments of Native infantry. At present it consists of one regiment and a part of another. The fort is rectangular, measuring about a mile by half a mile, and was

originally surrounded by ramparts and a ditch, but the walls have now been levelled and the ditch filled in. The streets in this part of the city are narrow but fairly regularly laid out.

Trichinopoly was constituted a municipality in 1866. The municipal limits include the cantonment and the fort as well as several other revenue villages. The municipal council consists of 24 members, of whom 8 are elected and 15 nominated by the Government, one of the latter being a military officer to represent the cantonment. The divisional officer is *ex officio* a councillor. The income averages about Rs. 1,50,000; and latterly the expenditure has exceeded the receipts, in consequence of the outlay incurred from borrowed money on the water-supply scheme. In 1903–4 the income amounted to Rs. 1,91,600, chiefly derived from the taxes on land and houses; and the expenditure was approximately equal to it. The water-works have cost about 8 lakhs, and loans were raised to the amount of Rs. 3,89,500. The supply is derived from wells and filter-beds laid in the bed of the Cauvery nearly a mile above the city, and the water is pumped up by steam and conducted into the city by pipes. The introduction of the supply has had a marked effect on the public health, and has practically abolished cholera, which was formerly the scourge of the place. The works are, however, liable to severe damage when the Cauvery is in flood, sometimes necessitating a return to the old tainted sources of supply. The problem of rendering them strong enough to resist floods is still under consideration; meanwhile the necessity for continued repairs is a severe drain on municipal revenues.

The most interesting object in the city is the famous Rock. It stands within the fort, rising sheer from the plain to a height of 273 feet above the level of the streets at its foot. The ascent is by a covered stone staircase, the entrance to which is on the south side. On each side of the gateway are stone figures of elephants, and the passage itself is lined with pillars with carved capitals. At the head of the first flight of steps a street runs completely round the Rock, by the side of which houses have been built. It is used for religious processions, and is connected with the street round the foot of the Rock on the eastern side. From the street opens a hall, on the left of which is a small shrine to Ganesa. A second series of steps leads out of this hall through an exit ornamented with statues of *dwārā-pālakas* ('gatekeepers') on each side. On ascending these, a second landing is reached, on each side of which is a large hundred-pillared *mantapam* or hall, that on the left being used twice a year for the reception of the idol belonging to the main temple. More steps lead to a third landing, to the left of which is a small room for the temple records and in front another shrine to Ganesa. The ascent now turns sharply to the left and then to the right, terminating on a fourth

landing giving access to the main temple. None but high-caste Hindus may enter this, but a view of a portion of the antechamber can be obtained from the landing. The steps now emerge into the open air, passing on the left a chamber hewn out of the rock and covered with Sanskrit inscriptions. This chamber was used as a magazine by the British during the siege, and has recently been opened out. The carvings appear to be of Buddhist origin, and are probably not later than the fifth or sixth century. Two short flights lead to a building to which the temple deity is taken once a year, and to a platform on the shoulder of the Rock, whence the top is reached by a final series of steps which are cut in the face of the rock. On the top is a third small shrine dedicated to Ganesa. This is surrounded by a gallery from which a fine view of the fort, the town, the Cauvery, Srīrangam island, and the adjacent country is obtained. At a corner of this gallery, overlooking the great temple, a narrow door leads on to a small platform, from which a view is obtained of the *kalasam* or golden covering over the central shrine of the temple. Beneath can be seen, sculptured in relief on the surface of the rock, two footprints which Hindus believe to have been made by Vibhīshana, the brother of Rāvana and the ally of Rāma. The Musalmāns, however, claim the footprints as those of the saint Nādir Shāh Auliya, who took up his residence on the Rock but was ejected by the god of the place.

At the foot of the Rock, on the north-eastern side, is a row of low buildings with semicircular arched roofs, said to be old bomb-proof barracks, and farther to the east a portion of the former outworks of the fort, the line of the walls being indicated by the open space surrounding the town. A representation of the Rock is sculptured on a tablet to Major Lawrence in Westminster Abbey. The deity in the main temple on the Rock is called Mātrubūtheswara in Sanskrit and Tāyumānavar in Tamil, from his having assumed the guise of a mother to attend on a helpless woman in childbed, her mother having been detained by floods on the other side of the Cauvery. When the floods subsided, the mother came across, and the woman and her husband were much puzzled as to who her double could have been. Siva then appeared in his real form and blessed them. This curious legend, and also that of Sāramuni, are painted panoramically on the inner wall of the temple.

Near the foot of the Rock is the Teppakulam, a large masonry tank or reservoir with a small but graceful *mantapam* in the centre. Overlooking it at the south-west corner is the main-guard gate, a substantial piece of masonry, from the top of which is the best view of the Rock as a whole. Distinguished visitors to the city are entertained by being taken to this point to see the Rock and the great tank outlined

with thousands of lamps, an impressive scene. The place was similarly illuminated at the two jubilees of the late Queen-Empress and on Coronation Day.

The Nawāb's Palace, a part of which is now used as a town hall and part as public offices, is situated close to the Rock. The portion used as the town hall was formerly the audience hall, and is a fine building of plain and massive architecture, surmounted by an octagonal dome and surrounded with colonnades. These last are perhaps, however, rather too squat to make an effective base for the dome. In front of the Nawāb's Palace is the Coronation Garden, with the Wenlock Fountain within.

Overlooking the Teppakulam at its south-east corner is a house once the residence of Clive, which is now occupied by St. Joseph's College. To the north-west of the Rock is Christ Church, founded by the famous missionary Swartz. His house is close by. Near the Fort railway station is what is known as Chanda Sāhib's tomb. It is in the Nādir Shāh mosque, wherein are buried the remains of Nādir Shāh Auliya, a saint who is reputed to have come here from Constantinople, and of one of his disciples, a lady. The railings round the tomb are pierced metal-work of a curious design. The building appears to have been constructed from the materials of Hindu temples, the head of a *lingam* having been converted into a lamp-post. The entrance hall to the mosque is clearly an old Hindu *mantapam*, left almost in its original state. Chanda Sāhib built the dome over the edifice and his remains are interred close to the building, while the remains of his rival Muhammad Alī and of members of his family are in the veranda and in a room attached thereto. There are Persian inscriptions on the walls of this building and of the mosque.

Besides the water-supply, the municipal council has built for the city a market in the fort and a hospital to the south of it. In front of the market are a clock-tower, the Diamond Jubilee Park, and the arch erected in commemoration of the visit of the present King-Emperor when Prince of Wales. The hospital has an endowment of Rs. 12,000 raised by public subscription in 1863, and also receives an annual grant of Rs. 4,500 from the District board. It has a maternity ward, a ward for high-caste patients, and a dispensing room for women and children, under the charge of a lady apothecary trained by Lady Dufferin's Fund.

Trichinopoly is one of the great educational centres in the south of the Presidency. It contains two first-grade colleges, maintained by the Jesuit Mission and the Society for the Propagation of the Gospel. The former, known as St. Joseph's College, was originally established at Negapatam in 1844 and was removed to Trichinopoly in 1883. The present building was opened in 1886. The Catholic

cathedral, a fine edifice, has been recently completed. Attached to the institution is a large boarding-house for native Catholic students, as well as lodgings for Brāhman and high-caste Hindus and hostels within the college compound. The S.P.G. College, which is a development of various schools founded by Swartz, was raised to a first-grade college in 1883. There is a hostel for Hindu students upon the college premises, and hard by is another bearing the name of Bishop Caldwell and intended mainly for Christian students from Tinnevelly. The proselytizing activity of the Jesuit Mission led to the establishment in 1886 of the National high school in the interests of the Hindu community.

Trichūr (*Trissivaperūr*).—Town in the *tāluk* of the same name, Cochin State, Madras, situated in 10° 32′ N. and 76° 13′ E. Area, 3½ square miles; population (1901), 15,585, of whom as many as 6,663 are Christians. Trichūr is considered the oldest town on the west coast, and its foundation is attributed by local tradition to Parasurāma. It was the scene of many historical events, of which the more recent were its capture and occupation by the Zamorin in 1760, by Haidar's army under Sardār Khān in 1776, and by Tipū in 1789. The town and the palace were fortified in 1774 with mud walls and trenches, but these defences are now in ruins. Situated at the head of the backwater communication, and possessing a railway station, Trichūr is a centre of considerable trade, which is chiefly in the hands of native Christians and Brāhmans from Tinnevelly. The former are an enterprising and prosperous community, the members of which own, among other concerns, four tile factories, a tannery, and a calico-weaving establishment. The chief buildings and institutions are the Palace, the Residency, the offices of the Chief Engineer, the Conservator of forests, and the Superintendent of police, the courts of the District Judge and the District magistrate, the civil hospital, three high schools for boys, and three lower secondary schools for girls. There are three important churches, one for the Chaldean Syrians, another for the Romo-Syrians, and the third for the Protestants. The most interesting and noteworthy institutions of the town are the temple of Vadakunnāthan, which is considered the oldest on the west coast, and the three Brāhman *maths*, or religious houses, which are said to have been founded by three of Sankarāchārya's pupils. Situated on an eminence, the temple contains several shrines and is surrounded by a high and thick masonry wall, with four massive *gopurams* or towers. Its income exceeds Rs. 30,000 per annum. The *maths* are also well endowed; in one of them Nambūdri Brāhmans are fed gratuitously and taught the Vedas.

Trikalūr.—Subdivision, *tāluk*, and town in South Arcot District, Madras. *See* TIRUKKOVILŪR.

Trimāb.—River formed by the united waters of the RĀVI, CHENĀB, and JHELUM rivers in the Punjab. Its length is 104 miles to the junction with the Sutlej.

Trimbak (more correctly, *Triambak*, 'the three-eyed,' a name of Mahādeo).—Town in the District and *tāluka* of Nāsik, Bombay, situated in 19° 54′ N. and 73° 33′ E., 20 miles south-west of Nāsik town. Population (1901), 3,321. Trimbak fort, which is 4,248 feet above the sea, and about 1,800 above the town, is on a scarp so high and precipitous as to be practically impregnable. The hill is 10 miles round the base and about 4 miles round the top. The scarp, which varies in height from 200 to 400 feet of perpendicular rock, surrounds the hill in every part, leaving only two gateways. The chief gateway through which the garrison received their stores and provisions is on the south. The north gateway is only a single gate, the passage to which is by narrow steps cut out of the rock, and wide enough for only one person at a time. Besides the gateways there are a few towers and works on different parts of the hill, but their position does not seem to have been chosen with a view to increase the strength of the fortress. In 1857 the Brāhmans of Trimbak instigated a party of Bhīls and Thākurs to attack the Trimbak treasury on the night of December 5. Trimbak is a place of Hindu pilgrimage, and, besides being visited by all the pilgrims who go to Nāsik, has a special fair in honour of Trimbakeshwar Mahādeo, held when the planet Jupiter enters the sign Leo, which event happens once every twelve years. The festival held in September, 1872, was attended by thousands of pilgrims from all parts of India. The municipality, which was established in 1866, had an average income during the decade ending 1901 of Rs. 6,100. In 1903-4 the income was Rs. 8,800, of which Rs. 3,500 was derived from a pilgrim tax. The town contains a dispensary.

Trinomalai.—*Tāluk* and town in South Arcot District, Madras. *See* TIRUVANNĀMALAI.

Tripatty.—Town in North Arcot District, Madras. *See* TIRUPATI.

Tripatūr (1).—*Zamīndāri tahsīl* and town in Madura District, Madras. *See* TIRUPPATTŪR (1).

Tripatūr (2).—Subdivision, *tāluk*, and town in Salem District, Madras. *See* TIRUPPATTŪR (2).

Trippapūr.—Village and shrine in the Trivandrum *tāluk* of Travancore State, Madras, situated in 8° 33′ N. and 76° 58′ E., about 5 miles north of Trivandrum. Population (1901), 1,937. The shrine, in which are worshipped the feet of Vishnu, is of great sanctity. Ananta Padmanābha, the tutelary deity of the Travancore royal house, is said to be resting with his head at Tiruvallam, his body at Trivandrum, and his feet at Trippapūr. This last name is a corruption of Trippādapuram ('city of the holy feet'), and after it the Mahārājā's family was formerly

known among the Malabar kings as *Trippapūr swarūpam*. The Mahārājās first put on the crown at this shrine and thereafter take the name of Kulasekhara Perumāl, a custom which suggests that this was the king's first capital, at least at the time when the coronation ceremony was instituted.

Tripunittura.—Town in the Kanayannūr *tāluk* of Cochin State, Madras, situated in 9° 57′ N. and 76° 20′ E., 8 miles east of British Cochin and 5 miles from Ernākulam. Population (1901), about 3,000. Its importance consists in its being the residence of the members of the ruling family, for whom the State has built several palaces. The present Rājā usually resides in a handsome palace, picturesquely situated on a hill 1½ miles to the east of the town.

Trivandrum (*Tiru-Anantapuram*, 'the holy city of Ananta').—Capital of Travancore State, Madras, situated in 8° 29′ N. and 76° 57′ E. Area, 9·89 square miles; population (1901), 57,882, consisting of 29,992 males and 27,890 females. Hindus number 47,860, Musalmāns 4,083, Christians 5,912, 'others' 27. Trivandrum is the largest town in Travancore, and the residence of the Mahārājā and the British Resident. It lies 2 miles from the sea, and contains a fort enclosed by a high wall about 1,000 yards long from east to west and about 800 yards from north to south. The fort and its neighbourhood constitute the most crowded part of the town, and here amid his people lives the ruler of the country. The celebrated shrine of Srī Ananta Padmanābhaswāmi is situated within the fort facing the east, a few yards inside the eastern gate. This has made Trivandrum a great religious centre, which attracts pilgrims from all parts of India throughout the year. In fact the town has really grown up about the shrine and owes its name to it. The temple has a revenue from land amounting to Rs. 75,000, and is under a peculiar system of management. Within the fort are also the palaces of the Mahārājā and other members of the ruling family. On the main road, a mile to the north of the fort, are the Huzūr Kacheri, in which the establishments of the Dīwān (or Minister), the High Court, and other head offices are accommodated in a handsome range of buildings of classic style. To the north of the public offices are the colleges for boys and girls, the Victoria Jubilee Hall, the Industrial School of Arts, the public library, the Christian churches, and the military cantonment in which is located the Nāyar Brigade. Farther north again is the Napier Museum, erected in the public gardens on plans embracing the prominent features of Malayālam architecture. Close to the Museum is the Observatory, where John Caldecott, the first astronomer (1837–49), and J. A. Broun, F.R.S., conducted their observations. The building, which was planned and erected by Captain Horsley of the Madras Engineers, is situated on a laterite hill, 195 feet above sea-level. Scattered about in all

directions save the south are the residences of Europeans and natives, picturesquely situated on isolated hills rising from 50 to nearly 200 feet above the sea, commanding beautiful views over a country which is perennially green and flourishing.

As regards industry and commerce, Trivandrum ranks below some of the other towns in the State. It has a small seaport; but the few vessels that touch at it have to lie at some considerable distance from the shore. Trivandrum is connected by good roads with all the important centres in the country. Towards the south, an excellent road about 53 miles in length leads to the Travancore frontier across the Aramboli pass, placing the town in communication with Tinnevelly, which is about 50 miles from the boundary. Towards the north, a chain of backwater communication gives easy access to Quilon and Cochin, and thus with the South Indian and Madras Railways.

Trivellore.—Subdivision, *tāluk*, and town in Chingleput District, Madras. *See* TIRUVALLŪR.

Trombay (*Turmbhen*).—Port in the Salsette *tāluka* of Thāna District, Bombay, situated in 19° 2′ N. and 72° 57′ E., about 3 miles north-east of Bombay City. Population (1901), 2,772. Trombay is a hamlet with a few huts, port and sea-customs offices, a salt store, and a ruined Portuguese church, with a well-preserved vaulted chapel 22 feet long, 22½ feet high, and 22 feet wide. The value of the trade in 1903–4 was returned at 71½ lakhs: namely, imports 40½ lakhs and exports 31 lakhs. The imports are chiefly cattle, gunny-bags, grass, and teak, and the exports rice, salt, firewood, and grass. The village contains a leper home.

Tukreswari.—Hill in the Habrāghāt *pargana*, Goālpāra District, Eastern Bengal and Assam, situated in 26° 3′ N. and 90° 38′ E., on the summit of which stood a temple dedicated to Durgā built by a former Rājā of Bijni. Its construction indicated considerable engineering skill on the part of the architect, and it was frequented by pilgrims from all parts of India. The temple was destroyed in the earthquake of 1897, but is now being rebuilt.

Tulamba.—Ancient town and ruins in Multān District, Punjab. *See* TALAMBA.

Tule La.—Pass in the State of Bhutān, situated in 27° 7′ N. and 89° 0′ E., 10,000 feet above the sea. By it the road from Sipchu to Paro crosses the range dividing the Di-chu and Amo-chu valleys.

Tuljāpur Tāluk.—Western *tāluk* of Osmānābād District, Hyderābād State. The population in 1901, including *jāgīrs*, was 58,415 and the area was 411 square miles; but in 1905 the Naldrug *tāluk* was added to it. The combined area is now 781 square miles, of which the population in 1901 was 114,750, compared with 121,799 in 1891, the decrease being due to the famine of 1900. The *tāluk* contains two

towns, TULJĀPUR (population, 6,612), the head-quarters, and MORAM (5,692); and 134 villages, of which 6 are *jāgīr*. The land revenue amounted in 1901 to 3 lakhs. The *paigāh tāluks* of Lohārā, with 126 villages and a population of 60,936, and of Ganjoti with 76 villages and a population of 44,644, are situated in this *tāluk*. Their areas are 610 and 361 square miles respectively.

Tuljāpur Town.—Head-quarters of the *tāluk* of the same name in Osmānābād District, Hyderābād State, situated in 18° 1′ N. and 76° 5′ E., 28 miles from Sholāpur and 14 from Osmānābād. Population (1901), 6,612. It contains a police inspector's office, a customs-house, a dispensary, a *tāluk* post office, a travellers' bungalow, and a school. Tuljāpur is a centre of trade. In a ravine at the foot of the hill is the temple of Tulja Bhavāni, which is visited by Hindus from all parts of India, especially on the full moon of the Dasara festival, when a great *jātra* is held. It is said to have been built by the Rājās of Sātāra and Kolhāpur. A weekly bazar is held here on Tuesdays.

Tumbemale.—Peak in the Pādinālknād *tāluk* of Coorg, Southern India, in the Western Ghāts.

Tumbudra.—River in Southern India. *See* TUNGABHADRA.

Tuminkatti.—Village in the Rānībennur *tāluka* of Dhārwār District, Bombay, situated on the Tungabhadra, on the Dhārwār-Mysore frontier, about 15 miles south of Rānībennur town. Population (1901), 6,341. The village contains two schools.

Tumkūr District.—District in the centre and north-east of the State of Mysore, lying between 12° 45′ and 14° 6′ N. and 76° 21′ and 77° 28′ E., with an area of 4,158 square miles. It is bounded north by the Anantapur District of Madras; east by Kolār and Bangalore Districts; south by Mysore District; and west by Chitaldroog, Kadūr, and Hassan Districts.

Physical aspects.

The east is occupied by a range of hills running north and south, which form the eastern boundary of the Kistna river system. Entering the District at the north with Kāmandurga (3,537 feet) and Nidugal (3,772 feet), it is continued by Midagesidurga (3,376 feet), and includes the prominent peaks of Maddagiridurga (3,935 feet), Channarāyadurga (3,744 feet), Devarāyadurga (3,940 feet), Nijagal (3,569 feet), Hutridurga (3,713 feet), and Huliyūrdurga (3,086 feet). The range continues through the west of Bangalore District with the Sivaganga and Sāvandurga peaks. The streams from these hills are small, the principal being the Jayamangali, which rises in Devarāyadurga and runs north-east to the Penner, and the Shimsha, which rises to the south of the same hill and runs south to the Cauvery. In the west the Chitaldroog belt is continued in the low Hāgalvādi hills as far as Kibbanhalli, forming part of the Chiknāyakanhalli auriferous band. A line east and

west from Koratagere to Tiptūr roughly corresponds with the watershed separating the Kistna basin to the north from that of the Cauvery to the south. The open parts of the District are from 2,500 to 2,700 feet above the sea, but Sīra is much lower. The country around Huliyūrdurga is wooded and hilly; otherwise the southern *tāluks* consist of undulating plains, with clumps of well-grown trees, where stone is scarce except on occasional hillocks or ridges. Coco-nut and other palms are confined to the vicinity of tanks. Farther north large plantations of coco-nuts occupy even the 'dry' lands, especially in the Gubbi, Tiptūr, and Chiknāyakanhalli *tāluks*. East from Tumkūr the park-like appearance of that *tāluk* changes, north of Devarāyadurga, to the scenery of a hill country intersected by cultivated valleys; the hills and their skirts are for the most part covered with shrubs, interspersed with trees which remain verdant through the greater part of the year. To the north-east extends a very fertile tract, irrigated from perennial springs called *talpargis*, reached at a depth of only a few feet below the surface. Where the soil is not sandy, the springs may be tapped at short distances from each other.

The majority of the rocks are similar in formation to those of Bangalore District. But near Sīra westwards stratified hills make their appearance, running in straight lines in various directions. They are quite bare of trees, but in the rainy season have a green appearance from the long hill-grass (*Anthisteria barbata*), which is almost the only vegetation that grows on them. These hills are almost covered at the top with a kind of magnetic ironstone, that withstands the decomposing powers of the air and water much longer than the lower parts of the hills, which seem to be composed of ferruginous slate clay. In the south-west, near Turuvekere, is a celebrated quarry of black stone in Karekal-gudda, a ridge about half a mile long, 100 yards wide, and 20 to 50 feet high. The stone is an amorphous hornblende, containing minute but distinct rhomboidal lamellar concretions of basaltine. In the hills east of Chiknāyakanhalli is found a hard whetstone or novaculite, used by natives for polishing diamonds and grinding drugs. The Chiknāyakanhalli schistose band runs south-south-west from Chitaldroog District as far as Turuvekere, with an average width of about 18 miles. There it suddenly pinches, being continued in a narrow band only 2 or 3 miles wide, to the Karigatta hill near Seringapatam. This narrow part consists largely of hornblendic, chloritic, and talcose schists, having less ferruginous quartz schists than in the northern portion, while limestones and conglomerates are absent.

The flora of this District is practically the same as in BANGALORE and KOLĀR Districts, though generally not so luxuriant.

The climate is reputed to be equable, pleasant, and healthy, agreeing

with natives and Europeans alike. In the south and south-west it greatly resembles that of Bangalore; the high elevation, the red soil, and the greenness of the surface among the hills contributing to moderate the temperature. From Sīra northwards the lower level of the country and the prevalence of black soil raise the temperature more nearly to that of the adjoining Bellary country. The east side of every range of hills is said to be perceptibly warmer than the west. The average range of the thermometer at Tumkūr throughout the year at noon is from 74° to 83°. The annual rainfall at the same place averages 39 inches.

History.

From an early period the country was in possession of the Gangas. The Pallava Nolambas had a capital at Penjeru or Henjeru (now Hemāvati on the northern border of the Sīra *tāluk*), and Nidugal was their stronghold. Under the Rāshtrakūtas the Kuningil (Kunigal) country was a province. The Hoysalas succeeded the Gangas; and the Henjeru and Nidugal chiefs, who claimed to be of Chola descent, were subdued by them. Partly under them and partly under the Chālukyas there was a small State at Huliyār. Another important district, called Anebiddasari or Anebiddajari, was situated in the country around Tumkūr. Under Vijayanagar this district was maintained, with its head-quarters on Devarāyadurga. Of the modern estates tributary to Vijayanagar, that of Nidugal in the north was founded by chiefs of the Harati family of Chitaldroog District; that of Holavanhalli or Korampur in the east, by a chief of the Avati family. There were also the Maddagiri estate in the north, the Hāgalvādi estate in the west, and south of that Hebbūr, which was absorbed by Māgadi. After the fall of Vijayanagar the north was overrun by the Bijāpur power, under which the province of Carnatic Bijāpur, of which Sīra was an important part, was formed in 1638, and placed under the government of Shāhjī, the father of Sivajī. In 1687 the Mughals followed, and made Sīra the capital of the Carnatic territories which remained in their possession for seventy years. Sīra was then taken in 1757 by the Marāthās, but restored two years after on the conclusion of peace. Meanwhile the Rājās of Mysore had been conquering all the parts not claimed by the Bijāpur government at Sīra. Dodda Deva Rājā died at Chiknāyakanhalli in 1672, and about 1696 Chikka Deva Rājā seized Jadakanadurga, changing its name to Devarāyadurga. In 1761 the Nizām's brother, Basālat Jang, conferred upon Haidar Alī the title of Nawāb of Sīra, and the conquest of the remainder of the District soon followed. In 1766 Sīra again fell into the hands of the Marāthās by the defection of Haidar's brother-in-law, but was retaken in 1774 by Tipū, who afterwards transported 12,000 families to Seringapatam, to people the new suburb of Shahr Ganjam. The Marāthās once again occupied it for a short time in 1791 on their march to join the British army under Lord Cornwallis.

The principal architectural remains are the Muhammadan buildings at Sīra. Of those now standing, the tomb of Malik Rihān (1651) and the Jāma Masjid (1696) are the chief. The inscriptions of the District have been translated and published.

Population.

The population at each Census in the last thirty years was: (1871) 689,026, (1881) 452,631, (1891) 580,786, and (1901) 679,162. The decrease in 1881 was due to the famine of 1876–8. By religion, in 1901, there were 633,847 Hindus, 31,765 Musalmāns, 10,388 Animists, 2,207 Jains, 949 Christians, and 6 'others.' The density of population was 163 persons per square mile, that for the State being 185. The number of towns is 18, and of villages 2,753. The largest town is TUMKŪR, with a population of 11,888.

The following table gives the principal statistics of population in 1901, according to *tāluks*:—

Tāluk.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Tumkūr	455	3	477	107,513	236	+ 18·3	7,438
Gubbi	552	2	421	87,468	158	+ 18·9	4,848
Kunigal	382	2	315	77,861	204	+ 17·1	2,457
Tiptūr	508	4	391	90,709	178	+ 15·0	4,026
Chiknāyakanhalli	532	2	278	60,071	113	+ 16·4	2,912
Sīra	599	1	247	77,604	129	+ 13·6	3,649
Maddagiri	606	3	480	116,695	193	+ 19·2	5,657
Pāvugada	524	1	144	61,241	117	+ 14·7	2,235
District total	4,158	18	2,753	679,162	163	+ 16·9	33,222

NOTE.—In 1902-3 a transfer of 97 square miles was made from the Chiknāyakanhalli *tāluk* to Chitaldroog District.

Wokkaligas or cultivators number 174,000; then come Lingāyats, 78,000; followed by the outcaste Mādigas, 60,000, and Holeyas, 37,000. Of Bedas, there are 50,000; of Gollas or cowkeepers, 43,000; and of Kurubas or shepherds, 42,000. Brāhmans number 19,000. Of Musalmāns nearly two-thirds are Shaikhs, who number close upon 20,000. The nomad tribes are represented chiefly by 4,000 Lambānis and 3,000 wild Kurubas. About 69 per cent. of the total are engaged in agriculture and pasture; 14 per cent. in the preparation and supply of material substances; 7 per cent. as unskilled labourers not agricultural; and 4 per cent. in the State service.

The number of Christians in the District is 949, of whom 912 are natives. The Wesleyan Mission has stations at Tumkūr, Gubbi, Kunigal, and other places. The Roman Catholics also have a few stations.

Except in the *tāluks* of Maddagiri, Chiknāyakanhalli, and in the east and north of Sīra and Koratagere, the soil is generally hard and poor, requiring much labour and manure to render it productive. There are tracts in some parts producing nothing but scattered stunted shrub, without even a blade of grass. This does not refer to the superior land irrigated by tanks, nullahs, and spring channels, as these soils in the *tāluks* referred to above are remarkable for their fertility. Pasture land is abundant but poor, except in the Amrit Mahāl *kāvals*. The southern and western *tāluks* have much red soil, and contain large tanks. The eastern *tāluks* have much sandy soil, the northern some black soil.

Agriculture.

The following table gives statistics of cultivation in 1903-4:—

Tāluk.	Area in square miles, shown in the revenue accounts.				
	Total.	Cultivated.	Irrigated.	Cultivable waste.	Forests.
Tumkūr	415	229	27	30	32
Gubbi	542	149	15	63	22
Kunigal	332	136	17	19	37
Tiptūr	493	207	7	62	...
Chiknāyakanhalli	423	125	6	87	30
Sīra	591	166	32	106	65
Maddagiri	530	178	20	62	29
Pāvugada	501	203	23	65	24
Total	3,827	1,393	147	494	239

Rāgi occupies 611 square miles; other food-grains, 292; gram, 180; rice, 100; oilseeds, 65; sugar-cane, 2; garden products, 98. Cotton and indigo are grown to a small extent in the Maddagiri and Pāvugada *tāluks*.

Up to 1904 a total of 2·44 lakhs had been advanced for the construction of irrigation wells, and Rs. 6,500 for field embankments. Agricultural loans to the amount of Rs. 22,600 had been granted for land improvements.

About 6 square miles are irrigated from channels, 136 from tanks and wells, and 5 from other sources. The number of tanks is 1,929, of which 450 are classed as 'major.'

The area of State forests in 1904 was 175 square miles, and of plantations 10. The forest receipts in 1903-4 amounted to Rs. 61,000, chiefly derived from minor produce and sandal-wood.

Iron ore is largely obtained from the hill-sides in Chiknāyakanhalli, either upon, or at a very small distance below, the surface. The metal is also smelted from the black sand brought down by streams from the rocks in Maddagiri and Koratagere. The Chiknāyakanhalli iron is esteemed the best, and is principally

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manufactured from the quarries of Doregudda. The haematite or limonite obtained in the same neighbourhood is much used by braziers for polishing the utensils made by them. As yellow ochre it furnishes a dye, and is also applied as a colour-wash to the walls of houses. Corundum is found in small quantities in Turuvekere, and limestone in most of the *tāluks*. The quarry of black stone at Karekal-gudda has been already mentioned. Since 1902 deep prospecting for gold has been carried on at Bellara in the Chiknāyakanhālli *tāluk* with promising results.

Trade and communications.

The principal articles of manufacture are coarse cotton cloth, woollen blankets, both plain and black-and-white check, those prepared at Chiknāyakanhalli being the best; rope, made from cotton thread, the fibre of the coco-nut, wild aloe, *san*-hemp, and *munji* grass; and also strong tape. Silk is chiefly produced in Kunigal, Kadaba, Koratagere, and Sīra. There are reported to be in the District 98 looms for silk, 3,154 for cotton, 1,941 for wool, and 110 for other fibres; also 43 works for wood, 8 for iron, 42 for brass and copper, 599 oil-mills, and 42 sugar and jaggery mills.

The trade of the District is principally in the hands of the Lingāyats. Their chief emporium is at Gubbi, but there are also extensive marts at Bellāvi, Turuvekere, Tiptūr, and Chiknāyakanhalli, to which the trade of the Southern Marāthā country and of the Bellary, Vellore, and Madras Districts is attracted, as well as that of the west and south of Mysore. At Gubbi areca-nuts, pepper, and cardamoms are imported from Nagar, and transmitted to Vellore and Wālājāpet, whence nutmegs, mace, and European piece-goods are obtained in exchange and exported to Nagar. Sugar, sugar-candy, and silk, the produce of Bangalore, together with coco-nuts raised on the spot, are sent to Dhārwār, whence cotton and thread are received in return, part of which goes to Nagar. The coco-nuts and food-grains of Chiknāyakanhalli and Honnavalli are sent to Bangalore, in exchange for jaggery, sugar, and sugar-candy. From Honnavalli, Turuvekere, and other marts, coco-nuts, iron, steel, tobacco, and silk are exported to Dhārwār and the Southern Marāthā country; and cotton, thread, *kusumba*, and Persian dates are received in exchange, much of the imports going to Bangalore by way of Sīra and Tumkūr. At Bargūr in Sīra and Hampasandra in Maddagiri a trade is carried on between Bangalore and Bellary, sugar, sugar-candy, and European piece-goods from the former being exchanged for cotton from the latter. The most valuable exports are food-grains, coco-nuts, areca-nuts, oilseeds, and oils. The most valuable imports are silk and cotton, food-grains, sugar, and jaggery.

The Southern Mahratta Railway from Bangalore to Poona runs east and west for 61 miles through the District. There are 159 miles of Provincial roads, and 473 miles of District fund roads.

Since the general famine ending in 1878, the failure of rains has caused apprehension at various times, as in the adjacent Districts, but no serious famine has been felt. In 1896–7 a remission was granted of half the assessment on waste 'wet' lands owing to the failure of rain. The District was somewhat affected in 1905.

Famine.

The District is divided into eight *tāluks*: CHIKNĀYAKANHALLI, GUBBI, KUNIGAL, MADDAGIRI, PĀVUGADA, SĪRA, TIPTŪR, and TUMKŪR. The Deputy-Commissioner is the head of the District, and the following subdivisions were formed in 1903 and placed in charge of Assistant Commissioners: Tumkūr and Kunigal; Maddagiri, Pāvugada, and Sīra, with head-quarters at Maddagiri; Gubbi, Chiknāyakanhalli, and Tiptūr, with head-quarters at Tumkūr.

Administration.

The District and Subordinate Judge's courts of Bangalore have jurisdiction over the District, and there are Munsifs at Tumkūr and Maddagiri. Criminal cases are not, as a rule, of a serious nature.

The land revenue and total revenue are shown below, in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	7,77	10,99	12,89	18,08
Total revenue . .	9,17	15,06	19,37	19,68

The revenue survey and settlement were introduced into Sīra, Tumkūr, and Pāvugada between 1870 and 1872, and into the remaining *tāluks* between 1877 and 1882. The incidence of land revenue per acre of cultivated area in 1903–4 was Rs. 1–6–2. The average assessment per acre on 'dry' land is R. 0–9–1 (maximum scale Rs. 2–2, minimum scale R. 0–1–6); on 'wet' land, Rs. 3–11–11 (maximum scale Rs. 10, minimum scale R. 0–6); and on garden land, Rs. 4–13–3 (maximum scale Rs. 16, minimum scale Rs. 2).

In 1903–4 there were ten municipalities—TUMKŪR, Maddagiri, Koratagere, CHIKNĀYAKANHALLI, SĪRA, GUBBI, Tiptūr, Turuvekere, Pāvugada, and Kunigal—with a total income of Rs. 35,500, and an expenditure of Rs. 40,500. There were also eight Unions—BELLĀVI, Kyātsandra, HOLAVANHALLI, HULIYĀR, Kadaba, Nonavinkere, HONNAVALLI, and Huliyūrdurga—with an income and expenditure of Rs. 8,000 and Rs. 18,000. Outside the areas administered by these, local affairs are managed by the District and *tāluk* boards, which had in 1903–4 an income of Rs. 72,000, chiefly derived from a share of the Local fund cess, and which spent Rs. 71,000, including Rs. 61,000 on roads and buildings.

The strength of the police force in 1903–4 was one superior officer, 91 subordinate officers, and 558 constables, of whom 2 officers and

29 constables formed the special reserve. There are 11 lock-ups, containing a daily average of 12 prisoners in 1904.

The percentage of literate persons in the District in 1901 was 4·9 (9·1 males and 0·6 females). The number of schools increased from 511 with 12,038 pupils in 1890–1 to 638 with 18,098 pupils in 1900–1. In 1903–4 there were 606 schools (313 public and 293 private) with 16,617 pupils, of whom 2,846 were girls.

The civil hospital and twelve dispensaries treated 91,735 patients in 1904, of whom 307 were in-patients, the number of beds available being 17 for men and 19 for women. The total expenditure was Rs. 24,000.

There were 9,266 persons vaccinated in 1904, or 14 per 1,000 of the population.

Tumkūr Tāluk.—Eastern *tāluk* of Tumkūr District, Mysore, lying between 13° 7′ and 13° 32′ N. and 76° 58′ and 77° 21′ E., with an area of 455 square miles. The population in 1901 was 107,513, compared with 90,702 in 1891. The *tāluk* contains three towns, TUMKŪR (population, 11,888), the head-quarters, Kyātsandra (2,067), and BELLĀVI (1,669); and 477 villages. The land revenue demand in 1903–4 was Rs. 1,95,000. The east is occupied by the Devarāyadurga hills, surrounded by forest. The Jayamangali rises there, but has a short and rocky course. South of the hills are fine tanks, the streams forming which run west to the Shimsha. Round Tumkūr the country is very fertile and highly cultivated; to the north it is less fruitful. Areca-nut and coco-nut gardens abound.

Tumkūr Town.—Head-quarters of the District and *tāluk* of Tumkūr, Mysore, situated in 13° 21′ N. and 77° 6′ E., on the Southern Mahratta Railway, 43 miles north-west of Bangalore. Population (1901), 11,888. It stands on elevated ground at the south-west base of the Devarāyadurga hills, near the waste weir of a large tank, and is surrounded by gardens of plantains and palms, besides fine groves. From the twelfth century it was included in the Anebiddajari or Anebiddasari district. The present town is said to have been founded by Kānta Arasu, one of the Mysore family. The walls of the fort have been levelled. Tumkūr is a principal station of the Wesleyan Mission. The municipality dates from 1870. The receipts and expenditure during the ten years ending 1901 averaged Rs. 14,500 and Rs. 11,000. In 1903–4 they were Rs. 10,000 and Rs. 15,000.

Tumsar.—Town in the District and *tahsīl* of Bhandāra, Central Provinces, situated in 21° 23′ N. and 79° 46′ E., on the Bengal-Nāgpur Railway, 27 miles from Bhandāra town and 570 from Bombay. Population (1901), 8,116. The town was constituted a municipality in 1867. The municipal receipts during the decade ending 1901 averaged Rs. 5,400. In 1903–4 the income was Rs. 4,000, principally derived

from a house tax and market dues. Tumsar is an important commercial town, receiving the produce of the north of the District and the adjoining tracts of Seonī and Bālāghāt. A covered market-place has been constructed and a large weekly grain market is held here. The rice grown in the vicinity of Tumsar has a special reputation. The local handicrafts include cotton-weaving, which is carried on in the town and several adjoining villages, the annual purchases of thread by the weavers being estimated at 3 lakhs. White loin-cloths with red borders are the chief articles woven. Numbers of cart-wheels are also made in Tumsar and exported to Nāgpur and Berār. The town possesses a vernacular middle school, a girls' school, and a dispensary.

Tunāwal.—Tract of mountainous territory in Hazāra District, North-West Frontier Province. *See* TANĀWAL.

Tūndla.—Village in the Itimādpur *tahsīl* of Agra District, United Provinces, situated in 27° 13′ N. and 78° 14′ E. Population (1901), 3,044. It is the junction for Agra on the main line of the East Indian Railway, and is an important railway centre. The railway medical officer residing here is usually invested with magisterial powers to try petty cases, and there is a church with a resident clergyman. The town is administered under Act XX of 1856, with an income of about Rs. 500.

Tungabhadra.—River of Southern India, the chief tributary of the Kistna, which is fed by all the streams of the northern half of Mysore State. It is formed by the union of the twin rivers Tunga and Bhadra, which rise together in the Western Ghāts at Gangāmūla, on the frontier of Kadūr District, Mysore. The Tunga runs north-east to beyond Sringeri, and then takes a sharp turn north-west to Tīrthahalli, whence its course is again north-east past Shimoga town. The Bhadra runs east to the western base of the Bābā Budan range, and then north past Benkipur. The two unite at Kūdali in the north of Shimoga District (14° N. and 75° 43′ E.). The united river forms the boundary between Mysore and Bombay, and then between Bombay and Madras. Turning north-east it forms the boundary between Madras and the Nizām's Dominions, and bending east in the north of Bellary District it joins the Kistna, beyond Kurnool, after a total course of about 400 miles. From Shimoga District the Tungabhadra receives the Choradi or Kumadvati and the Varadā on the west, and the Haridrā on the south. From Chitaldroog District it receives the Chinna Hagari and the Vedāvati or Hagari on the south.

The Tungabhadra is bridged for the trunk road at Harihar, where it is also crossed by the railway from Hubli to Bangalore; and again at Hosūru and Rāmpuram in Bellary District, where the lines from Hubli to Bellary and from Madras to Bombay pass over it.

There are thirty-eight small irrigation dams on the Tunga and the Bhadra in Mysore, but the beds of both rivers are for the most part rocky, and consequently unsuitable for navigation. The manner in which the country rises rapidly away from either side of the Tungabhadra has also hitherto prevented it from being greatly utilized for irrigation in either the Nizām's Dominions or the Madras Presidency, though in the former State its left bank is dammed for a distance of about 30 miles. The kings of the ancient dynasty of Vijayanagar (1336–1565), the ruins of whose capital still stand on its bank near the little village of Hampi in Bellary District, threw across it, above and below the city, a number of dams made of huge blocks of uncemented stone, of which ten are still used for watering narrow strips of land along the southern edge of the river. A few miles above the point where the Tungabhadra falls into the Kistna a dam also turns part of the water into the KURNOOL-CUDDAPAH CANAL. The river is, however, perennial and comes down in frequent heavy freshes, which cannot be utilized by any of these works, and are not required for irrigation in the delta of the Kistna lower down. The Irrigation Commission of 1901–3 accordingly recommended the reinvestigation of a project, which has been several times mooted in different shapes, for constructing a reservoir upon the river in Bellary District. It is calculated that a masonry dam about 145 feet long near Hospet, where the river cuts through some low hills, would hold back the water for a distance of nearly 40 miles, and form a lake with an area of 160 square miles and a capacity four and a half times as great as that of the Assuān reservoir on the Nile. From this a canal would be led to Bellary, tunnelling in its course through some rocky hills, and thence across the Hagari, through the watershed between this river and the Penner, and finally into the bed of the latter river. The canal and its distributaries would command portions of the Bellary, Kurnool, Anantapur, Cuddapah, and Nellore Districts of Madras. Detailed estimates for this great scheme, the cost of which is roughly estimated at 8 crores, are now under preparation.

The origin of the river is thus accounted for in local legend. A demon having seized the earth and carried it into the lower world, Vishnu became incarnate as a boar, and plunging into the ocean brought it up again. Resting after this exertion on the Varāha-parvat or 'boar mountain,' the perspiration trickling off his left tusk became the Tunga, and that from his right tusk the Bhadra.

Tungār.—Hill in the Bassein *tāluka* of Thāna District, Bombay, situated in 19° 26′ N. and 72° 55′ E., about 9½ miles from Bassein Road, on the Bombay, Baroda, and Central India Railway, to the summit, which is 2,200 feet high. Like most Konkan hills, Tungār is trap, capped by a layer of iron-clay or laterite from 200 to 300 feet

deep. The sides are clothed with forest. Its comparatively light rainfall and its openness to the sea make Tungār a very desirable site for a sanitarium. The hill is inhabited by Kolīs and Vārlīs.

Tuni Tahsīl.—*Zamīndāri tahsīl* on the north-east border of Godāvari District, Madras, lying between 17° 11′ and 17° 32′ N. and 82° 9′ and 82° 36′ E., with an area of 216 square miles. The population in 1901 was 58,762, compared with 57,448 in 1891. It contains one town, TUNI (population, 8,842), the head-quarters; and 48 villages. The demand on account of land revenue and cesses in 1903–4 amounted to Rs. 41,000. A large part of the *tahsīl* is covered with hills and jungle.

Tuni Town.—Head-quarters of the *zamīndāri tahsīl* of the same name in Godāvari District, Madras, situated in 17° 22′ N. and 82° 32′ E. on the East Coast Railway, 425 miles from Madras. Population (1901), 8,842. It is a market of local importance.

Turā.—Head-quarters of the Gāro Hills District, Eastern Bengal and Assam, situated in 25° 31′ N. and 90° 14′ E. The village has been built on a small plateau about 1,300 feet above the level of the sea, and the range from which it takes its name rises immediately behind it to a height of about 4,500 feet. It is connected by cart-road with Dālu on the south and the Rowmari steamer *ghāt* on the west. The population in 1901 was 1,375. Turā was fixed upon as the civil station when the Gāro Hills were formed into a separate District in 1869. Its situation is extremely picturesque, the station being surrounded by woods and nestling under the forest-clad hill, while the view from the village and from the mountain top is magnificent. The rainfall is, however, heavy (125 inches), and the climate is hot and exceedingly unhealthy, the low, densely wooded hills on every side being excessively malarious. Turā contains a small jail with accommodation for 36 prisoners, and a hospital with 15 beds, and is the head-quarters of a military police battalion and of a branch of the American Baptist Mission. The station has a good water-supply distributed by an aqueduct. The bazar is a centre of local trade, and contains a few shops owned by foreign traders.

Turaiyūr.—Town in the Musiri *tāluk* of Trichinopoly District, Madras, situated in 11° 10′ N. and 78° 36′ E. It has a population (1901) of 12,870 and is a rapidly growing place, containing the head-quarters of a deputy-*tahsīldār* and sub-magistrate, and being the chief town of the *zamīndāri* of the same name. It is picturesquely situated near the Pachaimalai Hills, and not far from the Kollaimalais in Salem. The most noticeable objects in the town are the large reservoir with stone steps and parapet walls, on which the floating festival is held, the god being taken round it on a raft; and the irrigation reservoir close by, in the centre of which is a curious building, three storeys high, in

which the *zamīndār* used formerly to spend short periods when the reservoir was full of water. The building is now out of repair and rapidly falling into ruins, which is unfortunate, as it is a picturesque example of a semi-Moorish style of architecture.

The Turaiyūr *zamīndāri* has had a very chequered career, which is typical of the fortunes of many similar properties in Southern India. During the siege of Trichinopoly in 1752 a detachment of the Mysore army, assisted by some French troops, overran the estate, deposed the reigning chieftain, and put one of his cousins in his place. In 1755, this new chief having neglected to pay his tribute, a detachment of French troops and sepoys from Pondicherry took the town, deposed him, and reinstated his predecessor. In 1756, however, the *zamīndār* again failed to pay his tribute and was accordingly deposed by the French, his immediate predecessor taking his place. In 1758 Captain Calliaud sent a detachment under Captain Smith to restore the chief whom the French had last expelled, as he was befriended by the chiefs of Ariyalūr and Udaiyārpālaiyam, who had always been bitter opponents of the French. Turaiyūr was captured after some spirited skirmishing in the woods which then surrounded the place. The expelled chief was again reinstated and five companies of sepoys were left to protect him. The chief who had been ejected by Captain Smith escaped to Mysore. When, however, at the end of 1758, some of the troops had to be withdrawn from Turaiyūr, he took advantage of the opportunity to capture the town. He then submitted to the Nawāb of Arcot, who confirmed him in the possession of the estate. In 1773 the Turaiyūr chief quarrelled with his son, who, fearing that his father had a design on his life, left the country and proceeded to Madras to lay his case before the Nawāb. The Nawāb took the opportunity of raising the tribute, and in the competition between father and son it was enhanced from 1½ to 2¾ lakhs in twenty years. In 1795, however, the father and the son became reconciled, and, seeing that they could not possibly meet the Nawāb's demands, left the country and took refuge in Tanjore, where the former died. In 1796 the son collected a number of men and laid waste the estate. Eventually an agreement was come to between him and the Nawāb, by which he retired to Tanjore on a monthly allowance of Rs. 1,000, with power to levy an assessment on the inhabitants of Turaiyūr not exceeding 25 per cent. of the amount of revenue collected by the state. This arrangement continued in force till the assignment of the Carnatic to the Company. As a preliminary step to the grant of a *sanad* (title-deed) to the chief, the estate was placed under the management of the Collector with a view to ascertain its income, and the chief was allowed 10 per cent. of its net revenue. In 1816 it was decided that he should not be restored to the possession of the entire estate, but should receive

only the village in which he lived, together with a number of other surrounding villages of an annual value equal to 10 per cent. of the gross collections. For this he paid the nominal *peshkash* of Rs. 700. A *sanad* was issued to him in 1817. The family is of the Reddi caste and of Telugu extraction. The *zamīndāri* has recently been declared impartible.

Turanmāl.—Hill in the Sātpurā range, in the Taloda *tāluka* of West Khāndesh District, Bombay, situated in 21° 53′ N. and 74° 48′ E. This was once a seat of the rulers of Māndu, and consists of a long, rather narrow table-land, from 3,300 to 4,000 feet high, and about 16 square miles in area. A fine artificial lake on the hill-top and the remains of many temples and walls are locally ascribed to the saint Gorakhnāth. On the south side of the hill a Jain temple of Pārasnāth is the scene of an annual fair in October. Save for a few wandering Bhīls, the hill is uninhabited. In the Mahābhārata the ruler of Turanmāl is mentioned as fighting with the Pāndavas.

Turbhen.—Port and village in Thāna District, Bombay. *See* TROMBAY.

Turuvanūr.—Town in the Chitaldroog *tāluk* of Chitaldroog District, Mysore, situated in 14° 24′ N. and 76° 26′ E., 11 miles north by east of Chitaldroog town. Population (1901), 5,035. The people are largely engaged in the weaving of blankets and cotton cloths. Dyers in red also carry on their trade. The municipality was formed in 1899. The receipts and expenditure for two years ending 1901 averaged Rs. 600 and Rs. 200. In 1903–4 they were Rs. 800 and Rs. 2,000.

Tuticorin Subdivision. — Subdivision of Tinnevelly District, Madras, consisting of the OTTAPPIDĀRAM and SRĪVAIKUNTAM *tāluks*.

Tuticorin Town (*Tūttukkudi*).—Town and port in the Ottappidāram *tāluk* of Tinnevelly District, Madras, situated in 8° 48′ N. and 78° 9′ E., 443 miles by rail from Madras city. It is the second seaport in the Presidency and the southern terminus of the South Indian Railway. It was first (about 1540) a Portuguese settlement, was captured by the Dutch about 1658, and taken from the Dutch by the English in 1782. It was restored to the Dutch by treaty in 1785, but retaken in 1795. The Dutch obtained it again in 1818, but ceded it in 1825 to the English, in whose possession it has remained ever since. Tuticorin seems to have been a most important place formerly, and in 1700 the Jesuits spoke of it as having 50,000 inhabitants.

The appearance of the town and its neighbourhood is not attractive. In parts the soil is so thin that no trees or plants will flourish; and elsewhere there is little but heavy sand, on which only palmyra palms and a few bushes grow. The rainfall is scanty, the annual average being only 24 inches. The water-supply of the town is derived from

the Tāmbraparni, being brought from a reservoir 4 miles distant. The local wells are all brackish. An estimate amounting to Rs. 1,15,000 has been sanctioned for an improved scheme for supplying the town with drinking-water, and the work has been taken in hand.

Tuticorin is the head-quarters of the divisional officer in charge of the Srīvaikuntam and Ottappidāram *tāluks*, as well as of an Assistant Superintendent of police and an Assistant Commissioner of Salt and Abkāri Revenue. The Additional Sub-Judge's court, hitherto located at Pālamcottah, has also been removed to the town. There is a Government salt factory at Arasadi, a village near by.

A municipality was constituted in 1866. The income and expenditure during the ten years ending 1902–3 averaged Rs. 45,700 and Rs. 37,800 respectively. In 1903–4 they amounted to Rs. 54,700 and Rs. 61,000. The expenditure includes capital outlay on water-supply works, and the excess over receipts was met by a loan from Provincial revenues. Most of the income is derived from the taxes on houses and land and from tolls. The population in 1901 was 28,048, of whom Hindus numbered 18,418, Musalmāns 1,694, and Christians 7,936. The great majority of the last are Paravans (fishermen), whose forefathers were converted to Roman Catholicism in a body in the sixteenth century. Tuticorin is their chief town and the residence of the *jāti talaivar*, or headman of their caste. Several European firms have agencies in the place. It contains three Catholic churches, a convent of native nuns, and three high schools for boys. There is also an old Dutch cemetery, in which are elaborately carved tombstones bearing coats of arms.

Tuticorin ranks next to Madras city in the Presidency and sixth in all India in the importance of its trade. It possesses a cotton-spinning mill and five factories for cleaning and pressing cotton. In 1903–4 the Coral Mills Company employed nearly 1,600 hands and turned out 2,600 tons of yarn. The other factories employed in the aggregate nearly 400 hands and pressed nearly 12,000 tons of cotton, besides considerable quantities of cinchona, palmyra-fibre, and *san*-hemp.

The harbour of Tuticorin is well sheltered, but has only 12 feet of water at the entrance. Vessels other than country craft have accordingly to anchor from 4 to 5 miles from the land, and their cargo is brought ashore in boats ranging from 20 to 50 tons burden. About 60 large boats with a total capacity of nearly 1,500 tons ply in the port, and 500 boatmen are always available. The port has an iron screw-pile pier, besides a wooden jetty for light work and six private jetties owned by European firms. There is a lighthouse on Hare Island, 2½ miles from the shore, in which is a fixed light visible for 14 miles from all directions seaward. In 1903–4, 1,350 vessels with a total tonnage of 750,000 tons called at Tuticorin. Of these, 450 were

steamers with a tonnage of 713,000. The trade of the port has steadily advanced, the value of its exports and imports in 1903–4 amounting to 286 lakhs and 161 lakhs respectively, against 157 lakhs and 68 lakhs in 1891–2. The principal articles of export are raw cotton, live animals (principally cattle and goats to Ceylon), coffee, cotton piece-goods, drugs and medicines, oil-cake, rice, hides and skins, spices, and tea. Raw cotton makes up nearly half the total value of the export trade of the port, which conducts about three-fourths of the trade of the Presidency in this article. The value of the cotton exported in 1903–4 amounted to 119 lakhs, against 98 lakhs in 1895–6. It is sent to many parts of Europe and Asia. Tuticorin has the largest export of chillies in the Presidency, while it comes next to Cochin in the value of its export trade in tea. A large quantity of rice is annually sent to Ceylon. The chief imports are European cotton twist and yarn and piece-goods, petroleum, machinery, hardware and cutlery, areca-nuts, and timber. There is also a very large passenger traffic with Ceylon, the average number of passengers who arrived at the port during the three years ending 1901–2 being 97,190, and of those who left it 83,402. The coasting steamers of the British India Steam Navigation and Asiatic Navigation Companies call frequently, and there is a daily mail service to and from Colombo in connexion with the South Indian Railway. Passengers are conveyed to the boats in steam launches. The port is under the control of a Port officer, who is also the Superintendent of the Pearl and Chank Fisheries. A small steamer is kept up in connexion with the latter. A committee for landing and shipping dues has recently been constituted.

Twante Subdivision.—Subdivision of Hanthawaddy District, Lower Burma, comprising the TWANTE and KUNGYANGON townships.

Twante Canal.—A tidal canal, without locks, in Hanthawaddy District, Lower Burma, close to and due west of the city of Rangoon, opened in May, 1883, with the object of improving boat communication between Rangoon and the Irrawaddy. The canal proper is a straight cut connecting the Kanaungto creek, which discharges eastward into the RANGOON RIVER opposite Rangoon, with the Twante creek, discharging westward into the China-Bakīr river. The canal is 7¾ miles in length, and was originally dug to a base width of 25 feet, the bed-level being uniformly 4½ feet above the zero of the tide tables. Since its construction the width has increased by tidal action, while the depth has been fully maintained by an hydraulic dredger. The average base width is now about 40 feet. The saving in distance effected by the canal is considerable, the river journey from Rangoon to Ma-ubin, which, via the Bassein creek, is 100 miles, being reduced to 45 miles if use be made of the canal. The cost of digging the

straight cut opened in 1883 was $1\frac{1}{2}$ lakhs, which may be taken as about half the total capital cost of the work.

Twante Township.—Township in Hanthawaddy District, Lower Burma, lying between 16° 34′ and 16° 56′ N. and 95° 49′ and 96° 14′ E., with an area of 369 square miles. The population was 69,123 in 1891, and 85,441 in 1901. The head-quarters are at Twante (population, 4,684), at the western end of the Twante creek, which runs through the centre of the township and connects it with Rangoon. The township contains 343 villages. It is low-lying, fertile, and thickly populated, having a density of 231 persons per square mile. The area cultivated in 1903-4 was 272 square miles, paying Rs. 5,51,000 land revenue.

Twenty-four Parganas.—District in the Presidency Division of Bengal, lying between 21° 31′ and 22° 57′ N. and 88° 2′ and 89° 6′ E., with an area of 4,844 square miles, including 2,941 square miles in the Sundarbans. The District derived its name from the number of fiscal divisions (*parganas*) comprised in the *zamīndāri* of Calcutta, which was ceded to the East India Company in 1757, by Mīr Jafar, the Nawāb Nāzim of Bengal. It extends in a rectangular shape, some 50 miles in breadth, along the east bank of the Hooghly river from the Bāgher Khāl, 25 miles north of Calcutta, southwards to the sea. It is bounded on the north by the Districts of Nadiā and Jessore; on the east by Khulnā; on the west by the Hooghly river; and on the south by the Bay of Bengal. Calcutta covers an area of 32 square miles and is not included in the District, though the Collector of the Twenty-four Parganas is Collector of land revenue in Calcutta and exercises magisterial functions over the suburbs.

Physical aspects.

The District occupies the south-west corner of the Gangetic delta, and is divided into two tracts of very different characteristics by the boundary of the Sundarbans, which runs diagonally north-eastwards from a point on the western boundary near the head of Sāgar Island and cuts the eastern boundary in the latitude of Calcutta. South of this line extend the SUNDARBANS, a half-formed deltaic tract occupying three-fifths of the District, cut up by a network of tidal channels into innumerable islets, the more northerly of which are embanked and grow rich crops of rice, while a fringe along the coast is covered with mangrove scrub and forest. The northern tract is characteristic of the upper delta of Central Bengal, a land of dead and dying rivers, whose beds are out of reach of the scour of the tides, and of great rice swamps, which will never now be filled, because the rivers which should perform this office are locked into their channels by the high banks of silt which they have deposited.

Industrial activity is concentrated in a narrow strip of foreshore along the bank of the Hooghly river, extending from Budge-Budge,

a few miles below Calcutta, to the northern limits of the District. This river frontage is densely populated, and almost every yard of it is occupied either by jute-mills or by crowded bazars. Behind this strip the level drops, the drainage is obstructed, and the country is unhealthy and decadent until the eastern limits of the District are approached. Here the Jamunā river causes another rise in the surface; and this tract closely resembles Eastern Bengal, and is inhabited by sturdy Muhammadans who raise abundant sugar-cane and jute crops. In the north, the monotonous level of the rice swamps is broken only by the clumps of palms and fruit trees among which the village hamlets nestle. The broad reaches of the Hooghly are alive with traffic, from the lumbering barge to the swift dinghy and noisy steam launch, while the river banks present a diversified panorama of mill chimneys and brick factories, interspersed with Hindu temples and the gardens of country houses.

The river system is derived from the Ganges and its distributaries, each river forming the centre of a minor system of interlacing distributaries of its own. Many of these change their names at different parts of their course, re-enter their parent channels, and then break away again or temporarily combine with other rivers until they reach their final stage as estuaries as they near the sea. The principal rivers are the HOOGHLY, Bidyādharī, Piāli, and JAMUNĀ, all navigable by the largest native boats throughout the year, besides the great estuaries in the Sundarbans. These arms of the sea, proceeding from east to west, are the Raimangal, Mātla, Jāmira, and the Hooghly, or Burhā Mantreswar, as the mouth is locally called. The original course of the Hooghly was identical with the present Tolly's Nullah as far as Gariyā about 8 miles south of Calcutta, from which point it ran to the sea in a south-easterly direction. The old channel, which is still traceable for a considerable distance, has long ago dried up, and the bed now consists of a series of shallow pools. Many large Hindu villages are situated on the banks of the old stream, which is called the Adi or 'original' Gangā. The Bidyādharī is a tidal river which, after a circuitous course through the south-west of the District, flows into the Mātla estuary at PORT CANNING. The Piāli is a cross-stream from the Bidyādharī to the Mātla. The Jamunā flows across the north-east corner of the District and forms part of the eastern boundary. The so-called Salt-Water Lake is a low basin, east of Calcutta, which is slowly filling with silt deposited by tidal channels from the Bidyādharī. The Ballī swamp in the north-east of the District is being gradually drained and reclaimed.

The surface is covered by recent alluvium, consisting of sandy clay and sand along the course of the rivers, and fine silt consolidating into clay in the other parts of the river plain.

The stretches of low-lying land under rice cultivation afford a foothold for numerous marsh species, while the ponds and ditches are filled with submerged and floating water-plants. Remarkable among these, on account of its presence in Europe on the one hand and Australia on the other, is the floating *Drosera Aldrovanda*. The edges of sluggish creeks are lined with large sedges and bulrushes, and the banks of rivers have a hedge-like shrub jungle. The sides of embankments and village sites, where not occupied by habitations, are densely covered with shrubberies of semi-spontaneous species, often interspersed with clumps of planted bamboos and groves of *Areca*, *Moringa*, *Mangifera*, and *Anona*. A very large proportion of the grasses and weeds have been inadvertently introduced by human agency, and include European, African, and American species.

The Sundarbans contain many deer and tigers, and the estuaries swarm with crocodiles. In the north, leopards are occasionally met with, and there are a few wild hog.

The mean temperature for the year is 78°, varying from 66° in January to 86° in May. The highest mean maximum is 96° in April. The highest temperature recorded was 108° in 1901. Humidity is high throughout the year and rises to 90 per cent. in July. The normal rainfall for the year is 62 inches, of which 5·5 inches fall in May, 10·6 in June, 12·5 in July, 13·2 in August, 9·1 in September, and 5·3 in October. Less than 2 inches fall in each of the remaining months.

The cyclone of October, 1864, did immense damage in the south of the District. A storm-wave 11 feet high rushed over the Diamond Harbour subdivision, and the loss of life was estimated at 12,000. The earthquake of June, 1897, caused serious injury to masonry buildings in all parts of the District. The floods of September, 1900, resulted in widespread damage to the rice crops, especially in the ill-drained area between Calcutta and Diamond Harbour.

History.

In the dawn of history the country south of the Padmā between the Bhāgīrathi and the old course of the Brahmaputra was known as Vanga or Banga, a name since given to the whole Province. Its people are described in the *Raghubansa* as living in boats and as growing transplanted rice. The Twenty-four Parganas lay to the extreme south of this tract, and probably did not emerge from the waters of the Bay before the seventh century. Towards the end of the tenth century this country passed along with the rest of Bengal proper under the sway of the Sen dynasty, and in 1203 it was overrun by the Afghāns under Muhammad-i-Bakhtyār Khiljī. Nothing definite, however, is known of the District till 1495, when a Bengal poem mentions several still well-known riverside villages, including Calcutta, extending along the Adi Gangā river from Bhātpāra to Bāruipur.

In the sixteenth century the District formed part of the *sarkār* or division of Sātgaon, which embraced also portions of the present Hooghly and Nadiā Districts. Sātgaon on the Saraswatī, near the modern Hooghly, was at that time a great emporium of trade; but when the Portuguese began to frequent the Hooghly river, about 1530, their ships could not sail with safety above Garden Reach, and their goods were sent up to Sātgaon in small boats. As the Saraswatī silted up, Sātgaon lost its importance; and in the middle of the sixteenth century native traders came and settled at Gobindpur, the site of the present Fort William in Calcutta. The Portuguese also established a mart at Sūtānuti, the heart of modern Calcutta. A century later the English, who had meanwhile established a factory at Hooghly, were compelled to retire to Sūtānuti; but it was not until 1690 that the foundations of the present Calcutta were definitely laid by Job Charnock. The rebellion of Subha Singh, in 1696, gave the opportunity for fortifying the town, and it became thenceforth the stronghold of British influence in Bengal.

After the battle of Plassey in 1757, the Nawāb Nāzim of Bengal, Mīr Jafar, ceded to the East India Company a tract of country which lay principally to the south of Calcutta and comprised about 882 square miles, known as the *zamīndāri* of Calcutta, or the Twenty-four Parganas *zamīndāri*. Under this grant the Company acquired the rights of a *zamīndār*; and in the following year they obtained, from the emperor's chief revenue officer, a *dīwāni sanad*, which particularized the land held by them and fixed the assessment at Rs. 2,22,958. In 1759 the emperor confirmed the grant by a *farmān*, which gave the Company a perpetual heritable jurisdiction over the land. Meanwhile, by a deed of gift executed in 1759, Lord Clive had been presented, as a reward for services rendered by him to the Nawab Mīr Jafar, with the revenue of the District due from the Company; and this sum continued to be paid to him till his death in 1774, when, by a deed sanctioned by the Mughal emperor, the whole proprietary right in the land and revenues reverted to the Company.

BARRACKPORE cantonment, 15 miles north of Calcutta, played a part in two sepoy mutinies. In 1824 the 47th Regiment refused to start for Burma, fearing that they would be compelled to proceed by sea. European troops and artillery were marched from Calcutta, and the gunners opened fire upon the mutinous regiment, which broke and fled. Many of the mutineers were shot or hanged, and the regiment was disbanded. It was at Barrackpore that the first sparks of the Mutiny of 1857 were kindled. The story of Mangal Pānde's outbreak and of the disbandment of the 34th Regiment is too well-known to need repetition.

The rebellion of Titu Miān is not so well-known. This man be-

longed to the Wahhābi sect of Muhammadan fanatics, and was excited to rebellion in 1831 by a beard-tax imposed by Hindu landholders. He collected a force of insurgents, 3,000 strong, and cut to pieces a detachment of Calcutta militia which was sent against him. The Magistrate collected reinforcements, but they were driven off the field. Eventually the insurgents were defeated by a force of regulars, and their stockade was taken by assault.

With these exceptions, the history of the District since its cession in 1757 has been uneventful, and is principally a record of constant boundary changes. These were all in the direction of increase until 1882, by which date the area had grown to 5,593 square miles. The transfer of the Sātkhira subdivision to Khulnā in that year reduced the District to its present proportions.

Population.

The population of the present area increased from 1,581,448 in 1872 to 1,690,771 in 1881, to 1,891,288 in 1891, and to 2,078,359 in 1901. The birth- and death-rates are much lower than the mean for the whole of Bengal; a great preponderance of males is the reason for the low birth-rate, and a low death-rate is a corollary to a low birth-rate. Fever is responsible for the greater part of the deaths, but the mortality due to cholera is also considerable. The banks of the Hooghly are not unhealthy, as a good supply of drinking-water is obtained from the river, and the drainage passes easily to the low swamps to the eastward. The salt breezes from the Bay of Bengal prevent the growth of noxious undergrowth in the south, which is, however, liable to cholera owing to a deficient water-supply. The most unhealthy tract is the depressed area in the north, which is waterlogged owing to the silting up of the drainage channels, and mosquitoes breed freely in the stagnant pools which fester in all directions. The drinking-water is obtained from tanks polluted by surface drainage, and all the conditions favourable to the spread of the 'Nadiā fever' are present.

The principal statistics of the Census of 1901 are shown in the table on the next page.

No less than a fifth of the whole population is urban. COSSIPORE-CHITPUR, MĀNIKTALA, GARDEN REACH, SOUTH SUBURBS, and TOLLYGUNGE are suburban towns, which for the most part belonged to the Calcutta municipality until 1889. The head-quarters are at ALIPORE, within the limits of the Calcutta municipality. Other industrial towns are BARANAGAR (25,432) with KĀMĀRHĀTI adjoining it, NAIHĀTI with HĀLISAHAR and BHĀTPĀRA adjoining it, TITĀGARH, BUDGE-BUDGE, and GĀRULIA. BUDGE-BUDGE is south of Calcutta; but the remaining towns form, with South BARRACKPORE, North BARRACKPORE, and PĀNĪHĀTI, an almost unbroken line of river frontage northwards from Calcutta to near the confines of the District. North and South

DUM-DUM include the Dum-Dum cantonment and its neighbourhood, and BASĪRHĀT and BĀRĀSAT are subdivisional head-quarters.

Subdivision.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Alipore	1,164	6	1,683	671,269	577	+ 11·8	77,301
Suburbs of Calcutta	10	3	...	101,348	10,135	+ 15·8	17,433
Barrackpore*	190	11‡	163	206,311	1,086	+ 5·2 (Barrackpore and Bārāsat)	35,626
Bārāsat	275	2	724	264,300	961		18,005
Basīrhāt	1,922	3	920	372,187	194	+ 7·2	28,111
Diamond Harbour	1,283	...	1,575	460,748	359	+ 14·4	56,035
Sundarbans†	...	...	17	2,196	...	− 64·2	109
District total	4,844	25	5,082	2,078,359	429	+ 9·9	232,620

* Barrackpore subdivision was formed out of parts of the head-quarters and Bārāsat subdivisions in 1904.
† Most of the population of the Sundarbans has been included in the figures for the head-quarters and Basīrhāt subdivisions, within which the Sundarbans lie. There are a few wood-cutters, &c., for whom separate census arrangements were made.
‡ Excluding Hālisahar, which was constituted a separate municipality in 1903.

The growth of the population has not been uniform throughout the District. The north-central *thānas* are stationary or decadent, owing to defective drainage and malarial conditions which are driving the inhabitants into Calcutta. On the other hand, a remarkable expansion has taken place in the industrial tract on the bank of the Hooghly river, while the rapid progress of reclamation has attracted numerous settlers to the Sundarbans. During the last decade the riparian population has grown by 12 per cent., and the Sundarbans population by no less than 24 per cent.; on the other hand, the northern and central *thānas* have remained stationary. The population is very dense along the Hooghly to the north of Calcutta; but the density for the whole District is low, owing to the inclusion of the sparsely inhabited Sundarbans, which cover 2,941 square miles, or three-fifths of its area.

The main tide of migration sets from the eastern Districts of the United Provinces and from Bihār to the mills on the banks of the Hooghly. A large number of labourers cross annually from Midnapore to Diamond Harbour, and are employed as harvesters or in repairing embankments and clearing jungle in the Sundarbans. A number of immigrants from Chotā Nāgpur have also settled in the Sundarbans, where they are known as Bunās. No less than 10 per cent. of the population enumerated in 1901 were born outside the District, and there were more than two males for every female immigrant. As a consequence, there are only 902 females to every 1,000 males of the population. Bengali is the language spoken by the natives of the

District. Hindus number 1,310,151 or 63 per cent. of the total, and Musalmāns 753,260 or 36 per cent.; the latter are most numerous in the north-east, where they actually outnumber the Hindus. Christians (14,000) are more numerous than in any other Bengal District except Rānchī, and Europeans (3,000) more numerous than in any other District.

The castes most largely represented are aboriginal. The Pods (295,000) are numerically the most important and are divided into two classes, the Padma Rāj, or Vrātya Kshattriya, living by cultivation and regarding themselves as superior to the fishing Pods. Similar in rank and origin are the Kaibarttas (207,000), who again claim to be divided into a higher class known as the Chāsi or Māhisya, and a lower, the Jaliyā. The Bāgdis (94,000) are another non-Aryan community. Among the Aryan castes, Brāhmans (77,000), Ahīrs (64,000), and Kāyasths (34,000) are the most numerous. Of the remainder, Tiyars (fishermen), Nāpits (barbers), Muchis (leather-dressers), and Sadgops, a cultivating caste, are well represented. The Kaorās (63,000) are a low caste, of criminal proclivities, who largely man the ranks of the village watch. Nearly all the Musalmāns are Shaikhs (574,000) or *ajlāf* (122,000). These, with the functional castes, e.g. Jolāhās (18,000), are probably descendants of converts, as distinguished from the immigrant Pathāns (14,000) and Saiyids (8,000). Out of every 100 persons, 62 are dependent on agriculture, 18 on industry, and 1 on commerce, while 2 belong to the professional classes.

Of the 14,000 Christians, 11,000 are natives of India; of these, 4,000 belong to the Anglican communion, 2,800 are Roman Catholics, and the remainder are Baptists, Congregationalists, or Methodists. Missionary effort dates from the beginning of the nineteenth century, and has met with most success among the aboriginal castes in the south of the District. A large number of sects and denominations are at work. They have several masonry churches, and their educational work is especially important. The Church of England is represented by the Society for the Propagation of the Gospel and the Church Missionary Society. The former commenced work in 1823. Both are engaged in pastoral and educational work; and, under the auspices of the former Society, the Clewer Sisters maintain 30 girls' schools in the Sundarbans. The London Missionary Society maintains two high schools at Bhawānīpur, and a first-grade college as well as elementary schools. The Baptist Missionary Society, the Wesleyan Mission, the American Methodist Church, the Women's Union Missionary Society, and the Church of Scotland also carry on important work. The Roman Catholic Church conducts missionary and educational work in the Sundarbans.

The surface of the District has been formed by recent alluvial

deposits; and, with the exception of strips of high land along the banks of the rivers, the whole country is low and swampy, and tends to become waterlogged whenever the rainfall is in excess. This is especially the case with the great basin shut in between the Diamond Harbour Railway and the Hooghly embankments, as well as the similar tract east of the Eastern Bengal State Railway and the Ballī *bīl*. In these cases the drainage channels are inadequate to remove any excessive rainfall.

Agriculture.

The main agricultural statistics for 1903-4 are shown below, areas being in square miles:—

Subdivision.	Total.	Cultivated.	Cultivable waste.	Forests.
Alipore . . .	1,164	634	167	317
Suburbs of Calcutta	10	5	2	..
Barrackpore . .	190	132	27	...
Bārāsat . . .	275	193	39	...
Basīrhāt . . .	1,922	336	275	1,140
Diamond Harbour .	1,283	363	184	301
Total	4,844	1,663	694	1,758

The only crops of real importance are rice and jute, the former occupying 1,517 and the latter 125 square miles. The winter rice crop, which accounts for nearly four-fifths of the total cultivated area, is usually transplanted. Pulses are largely grown in the winter, and sugar-cane occupies a considerable area in the north-east.

Cultivation is spreading very rapidly in the Sundarbans, and all over the District the swamps are being gradually drained and reclaimed. Under the Land Improvement Loans Act money is occasionally borrowed for the construction of embankments in the Sundarbans, and, after the floods of 1900, about Rs. 21,000 was lent to the sufferers to enable them to purchase cattle and seed-grain.

The cattle belong to the degenerate breeds common in Lower Bengal. They are deteriorating, owing to the cultivation of pasture lands and to the abandonment of the practice of dedicating bulls, which are no longer allowed to breed unmolested, but are sold in the towns for cart-work. Diminutive goats are numerous, but ponies, sheep, and buffaloes are scarce. Important fairs are held at Sāgar Island in January, and at Hārua at the end of February. In November the Mārwāris hold a gathering at the Pinjrāpol, 15 miles north of Calcutta, where they maintain an asylum for broken-down cattle. A veterinary college has been established at Belgāchia.

Water from tanks and roadside ditches is employed to a trivial extent in irrigating sugar-cane and garden crops; but as cultivation suffers far more frequently from too much than from too little water, artificial irrigation is but little used.

A tract on the southern face of the Sundarbans forms a 'protected' forest; but cultivation is rapidly encroaching upon it, and no less than 448 square miles were disforested during the decade ending 1903-4, leaving 1,758 square miles as the present area. The principal timber trees are *garān* (*Ceriops Candolliana*), *geoā* (*Excoecaria Agallocha*), and *keorā* (*Sonneratia apetala*), while among minor forest produce may be reckoned *golpāta* (*Nipa fruticans*), *hantāl* (*Phoenix paludosa*), reeds, honey, wax, and shells used for making lime. The forest receipts in 1903-4 amounted to Rs. 50,000, and the expenditure was Rs. 18,000. The receipts on account of the produce of leased lands amounted to Rs. 23,000.

Forests.

No hand industries of any importance are carried on. Imitation locks are made at Nātāgarh, and brushes and combs, cheap shoes, and common embroidery are manufactured. A little cotton is woven, and knives, utensils, and mats are made. Small sugar factories exist in the north of the District, but the industry is declining. Tanneries and soap manufacture exhaust the list of hand industries.

Trade and communications.

Factory industries are important, as the proximity of the Port of Calcutta and the many means of communication with the interior, by both rail and river, afford special facilities to manufacture on the banks of the Hooghly. In 1903 as many as 75 out of the 259 factories in Bengal were situated in the Twenty-four Parganas, and at the end of 1904 there were 79 factories at work, employing 124,000 hands. The list of industries is a long one, as it includes jute-pressing and weaving, cotton-spinning, paper-making, sugar-refining, ship-building; the manufacture by Government of arms and ammunition, of uniforms for the troops, and of telegraph stores; soap-making, iron-founding, leather-tanning, rope-spinning, shellac manufacture, bone-grinding, oil-pressing, brick-making, and the refinement of saltpetre. Petroleum is also stored in bulk and subsequently filled in tins at Budge-Budge.

The operatives are largely up-country men, and they are for the most part miserably housed in crowded hovels; but factory owners have done much of late years to ameliorate the conditions of their life by improving the water-supply and by constructing wholesome dwellings for them.

By far the most important industries are the weaving of jute into gunny-bags and the pressing of the raw product for export. The manufacture of gunnies has been largely diverted of late years from Dundee to the banks of the Hooghly, and nearly one-third of the jute crop is now manufactured in Bengal. The first start was made about forty years ago, but most of the mills have been opened since 1880. In 1904 the District contained 24 jute-mills, employing 84,000 hands; they possessed nearly 12,000 looms, and their out-turn was valued at

nearly 6 crores of rupees, or 4 millions sterling. The jute-presses are found in the northern suburbs. The industry started in 1873, and in 1904 as many as 11 presses were at work, employing over 8,000 hands. There are 5 cotton-mills, which manufacture cotton yarn or twist for the local and China markets. The industry dates from 1875 and employs 5,000 operatives; the out-turn in 1901 was 5,700 tons of yarn, valued at nearly 33 lakhs.

Two paper-mills, employing 2,000 hands, had in 1903-4 an out-turn of 8,778 tons, valued at nearly 27 lakhs; and there are also 2 lac factories with 500 operatives. The remaining industries are of minor importance; they include a soap factory, 4 iron-works, 2 ice factories, 2 oil-mills, 1 silk factory, 1 rice-mill, 1 sugar factory, and 4 saltpetre refineries. Besides these, the Government maintains a small-arms and ammunition factory at Dum-Dum, a foundry and shell factory at Cossipore, and a rifle factory at Ichāpur.

The only articles imported by rail in any quantity are coal from Rānīganj and Mānbhūm District, jute from East and North Bengal, and linseed from Calcutta and Bihār; the coal and jute go to the mills. Raw cotton is obtained by the mills from Berār and the Central Provinces, rice from Backergunge, Burdwān, and Khulnā, and paddy (unhusked rice) from Bīrbhūm and Bogra. Some gram and pulses are imported from Nadiā and Jessore, and a little sugar comes from the latter District. Imported kerosene oil is sent up-country from Budge-Budge, a certain amount of rice is exported to Calcutta, and gunny-bags manufactured in the mills are dispatched to Calcutta and up-country. The water communications are excellent and carry an extensive trade in country produce. A considerable export takes place by road into Calcutta of animals, vegetables, &c., as well as of straw, bricks, bamboos, and other local products and manufactures.

The Eastern Bengal State Railway runs from Calcutta to the northern boundary of the District, and the central section of that railway follows a north-easterly course through Bārāsat and Hābra towards Jessore. Other lines run from Calcutta to Budge-Budge, Diamond Harbour, and Port Canning; and a light railway from Basīrhāt to Bārāsat has recently been opened. The total length of railways in the Twenty-four Parganas is about 158 miles.

Including 993 miles of village roads, the District contains 1,344 miles of unmetalled and 241 miles of metalled roads maintained by the District board. The grand trunk road runs north from Calcutta along the river bank to Paltā (14 miles), where the Hooghly is crossed by a ferry and the road passes to the west bank of the river. The Plassey road continues north along the east bank to the boundary of the District. The Jessore road passes through Dum-Dum and Bārāsat, and maintains a north-easterly direction to the District boundary. The

roads south of Calcutta are the Diamond Harbour road, the Orissa trunk road which crosses the Hooghly by a ferry at Achipur, and the Bistupur road which runs due south, through Bāruipur, for 29 miles. The chief east and west cross-roads are the Tāki road from Bārāsat to Basīrhāt, along which a light railway with 8 stations has been laid, and the continuation of this road westwards to Barrackpore. The Calcutta Electric Tramways extend in the Twenty-four Parganas District for half a mile along the Jessore road to Belgāchia, and for the same distance southwards to Tollygunge.

The CALCUTTA AND EASTERN CANALS, which form the waterway by which the rice of Eastern Bengal is poured into Calcutta, have their terminus at Dhāpa, 5 miles east of Fort William. The inception of the system is due to Major Tolly, who in 1777 canalized an old bed of the Ganges, called after him TOLLY'S NULLAH, which connects Kidderpore with the Bidyādharī river. There are now three great routes between Calcutta and the chief rice-growing Districts. The one generally used is the Inner Sundarbans Passage, which, starting from Dhāpa, follows the Beliāghāta and Bhāngar canals, and thence passes by the Sibsā river to Khulnā. The Outer Sundarbans Passage, which is used by heavily laden boats, runs from Sāmukpotā, 20 miles south-east of Calcutta, along the Bidyādharī river to Port Canning and then strikes to the north-east; it is connected with the south of Calcutta by Tolly's Nullah, and with the north of that city by the Beliāghāta and Circular Canals. The third route is the steamer route to Goalundo and Chāndpur, which proceeds down the Hooghly to Mud Point, and thence turns eastwards by the Bārātala Creek between Sāgar Island and the mainland, and works its way through various creeks and channels to Barisāl. Passenger steamers ply on the Hooghly from Calcutta to Naihāti, from Calcutta to Kākdwīp on the mainland opposite Sāgar Island, and from Diamond Harbour to Tengrā. Steamers also traverse the Ichāmatī and Jamunā rivers from Tāki to Chārghāt, 4 miles from Gobardānga. Much of the traffic is carried on by large boats from the eastern Districts. The local boat is called *pānsi*, but on the narrow and shallow waterways most of the work is done with dug-outs known as *dongās* or *sāltis*.

There are 53 ferries under the control of the District board, the most important being the Uttarbhāg ferry across the Piāli river, the Hājīpur ferry across the creek at Diamond Harbour, and the Budge-Budge and Charāmādāri ferries across the Hooghly. Other ferries on the Hooghly river belong either to the Government or to riparian municipalities.

For administrative purposes the District is divided into five sub-divisions, with head-quarters at ALIPORE, BARRACKPORE, BĀRĀSAT, BASĪRHĀT, and DIAMOND HARBOUR. At Alipore are stationed the

Magistrate-Collector, a Joint-Magistrate, an Assistant Magistrate, and 9 Deputy-Magistrate-Collectors. The suburbs of Calcutta are policed by the Calcutta force, but cases are tried at police courts at Alipore and Sealdah by two Deputy-Magistrates subordinate to the District Magistrate of the Twenty-four Parganas. The Barrackpore subdivision is in charge of a member of the covenanted civil service, and each of the other subdivisions of a Deputy-Magistrate-Collector, the subdivisional officer at Basīrhāt being assisted by one Sub-Deputy-Collector and at Diamond Harbour by two Sub-Deputy-Collectors. The Collector of the Twenty-four Parganas is *ex-officio* Collector of land revenue in Calcutta, but the revenue is collected by an officer styled the Deputy-Collector of land revenue, who is also the Collector of stamp revenue and Superintendent of excise revenue in Calcutta and in so much of the District as is under the jurisdiction of the Calcutta police; in these functions he is independent of the Collector of the Twenty-four Parganas. An Assistant Inspector-General of Government railway police is stationed at Sealdah.

Administration.

The civil courts are those of the District and Sessions Judge, 2 Additional District and Sessions Judges, of whom one is also Additional Judge of Hooghly and the other is a special land-acquisition judge, 4 Sub-Judges at Alipore, of whom 2 are permanent and 2 are temporary, a Small Cause Court Judge at Sealdah, and 15 Munsifs, of whom 3 are stationed at Alipore, 4 at Diamond Harbour, and 2 each at Sealdah, Bārāsat, Basīrhāt, and Bāruipur. For criminal work, in addition to the courts of the Judge, Additional Judge, the District Magistrate, and the stipendiary magistrates, a Cantonment Magistrate deals with cases in the Barrackpore and Dum-Dum cantonments and the Station Staff Officer with those in Alipore. The large number of dacoities is a feature of the criminal administration of the District, while the Diamond Harbour subdivision is notorious for the number of wreckers and cattle-thieves it contains.

The current demand for land revenue in 1903-4 was 16·88 lakhs, payable by 2,012 estates, of which 1,696 with a demand of 12·64 lakhs were permanently settled, and 302 paying Rs. 1,07,000 were temporarily settled, the remainder being held direct by Government. The District contains a large area managed direct by Government, and the whole of the Sundarbans is so dealt with. The most interesting estate is PANCHĀNNAGRĀM, which comprises most of the suburbs of Calcutta. It is bounded on the north by the Baranagar estate, which was acquired by treaty from the Dutch in 1795. The Sāhibān Bāgīcha is a Government estate formed in 1790 of garden houses occupied by Europeans.

Rents are high. Rice lands in the head-quarters and Bārāsat subdivisions are rented at from Rs. 6 to Rs. 12 an acre, but lower rates prevail in the other two subdivisions. Homestead and sugar-cane

lands fetch from Rs. 10 to Rs. 20 an acre. The gross rental of the District, as ascertained from the road and public works cess valuation rolls, is 72·51 lakhs, or more than four times the land revenue. The cultivated area in 1903–4 was estimated at 1,663 square miles, and the incidence of the gross valuation per acre is therefore Rs. 6–13, of which only Rs. 1–9 reaches the treasury. These figures are much above those for Bengal as a whole, where the average rental is only Rs. 3–1 and the revenue only 13 annas per cultivated acre. In the Government estates in Diamond Harbour the average size of a holding varies from 2½ to 8 acres. The general average for the District is probably from 3 to 4 acres, but in the Sundarbans holdings are considerably larger.

The following table shows the collections of land revenue and of total revenue (principal heads only), in thousands of rupees:—

	1880-1.*	1890-1.	1900-1.	1903-4.
Land revenue . .	16,92	16,02	16,13	16,61
Total revenue . .	27,89	29,89	32,60	36,24

* In 1880-1 the District included the Sātkhira subdivision, which was subsequently transferred to Khulnā.

The District contains 26 municipalities, and their inspection and control occupy much of the District officer's time and energies. Outside municipal areas, local affairs are managed by a District board, with subdivisional local boards and three village unions at Bāsudebpur, Itindā, and Jadurhātī. The income of the District board in 1903–4 was Rs. 2,89,000, including Rs. 1,59,000 derived from rates; and the expenditure was Rs. 2,92,000, of which Rs. 1,78,000 was spent on public works and Rs. 60,000 on education. The District board has guaranteed interest at the rate of 4 per cent., up to a maximum of Rs. 38,000 per annum, on the light railway from Bārāsat to Basīrhāt.

The Public Works department maintains 222 miles of embankments, of which 216 miles were constructed, and are kept in repair, at Government expense. The main embankment has a total length of 194 miles, and runs southwards along the left bank of the Hooghly river from Akra a few miles below Calcutta to Rāngāfala near the head of Sāgar Island; thence it branches east and north to Sāmukpotā, and terminates at Gariyā 8 miles south of Calcutta. This embankment protects a tract of 716 square miles in the south-west of the District from inundation by the Hooghly and other rivers. Drainage is provided for by numerous sluices, of which 13 are on a large scale. The Chariāl works drain a large area near Budge-Budge, and the Sātpukur, Kālpi, and Tengrābichi works drain a considerable tract in the south of the Diamond Harbour subdivision, while the Ballī *bīl* in the north-east of the District is drained by a channel with a sluice at Tetuliā. Large schemes have

also been projected for draining the area protected by the embankments. A lighthouse is situated on Sāgar Island.

The suburbs of Calcutta are policed by a force under the orders of the Commissioner of Police, Calcutta. His jurisdiction embraces the Cossipore-Chitpur, Māniktala, and part of the Garden Reach municipal areas, as well as the fringe east and south of the Lower Circular Road and Tolly's Nullah, which is within the Calcutta municipality but under the authority of the Magistrate of the Twenty-four Parganas. The suburbs are divided into two divisions, the northern and southern, each under a Superintendent. The suburban force consisted in 1903, in addition to the Superintendents, of 68 officers, 633 constables, and 7 boatmen.

Outside the suburbs, the District contains 26 police stations and 9 outposts, as well as 37 town outposts, 3 mill outposts, 3 cantonment outposts, and one beat-house. The town outposts are manned partly by police constables, and partly by town *chaukīdārs*. The District Superintendent is provided with a steam-launch, and 7 police boats patrol the waterways. The force consists of a District Superintendent, an Assistant Superintendent, 8 inspectors, 71 sub-inspectors (including one European), 127 head constables, 1,019 constables, and 148 town *chaukīdārs*. A special force of 15 head constables is employed for nine months in the dry season, to accompany the officers of the Salt department on searches. The rural police number 350 *daffadārs* and 3,423 *chaukīdārs*; and the District is divided into 349 Unions, each of which is manned by a *daffadār* and from 7 to 13 *chaukīdārs*.

The ALIPORE District and Central jail has accommodation for 1,837 prisoners, and a District jail at BĀRĀSAT for 130 prisoners; subsidiary jails at Diamond Harbour and Basīrhāt each hold 12 prisoners, while that at Barrackpore holds 14. A reformatory school at Alipore provides accommodation for 226 boys.

Education is more advanced than in most Bengal Districts. In 1901, 11·2 per cent. of the population (20·2 males and 1·3 females) could read and write. The number of pupils under instruction increased from 52,000 in 1883–4 to 68,138 in 1892–3 and 73,021 in 1900–1. In 1903–4, 79,860 boys and 7,727 girls were at school, being respectively 42·5 and 5·2 per cent. of the children of school-going age. The number of educational institutions, public and private, in that year was 1,953, comprising 125 secondary, 1,788 primary, and 40 special schools. The expenditure on education was 3·86 lakhs, of which Rs. 52,000 was met from Provincial revenues, Rs. 60,000 from District funds, Rs. 11,000 from municipal funds, and 1·97 lakhs from fees.

In 1903 the District contained 36 dispensaries, of which 12 had accommodation for 195 in-patients. The cases of 184,000 out-patients and 3,404 in-patients were treated in 1903, and 12,017 operations were

performed. The expenditure was Rs. 71,000, of which Rs. 12,000 was met from Government contributions, Rs. 20,000 from Local and Rs. 22,000 from municipal funds, and Rs. 7,000 from subscriptions.

Vaccination is compulsory only within municipal areas. In 1903–4 the number of persons successfully vaccinated was 62,000, representing 30 per 1,000 of the population.

[Sir W. W. Hunter, *Statistical Account of Bengal*, vol. i (1875).]

Tyāga Durgam.—A small fortified hill in the Kallakurchi *tāluk* of South Arcot District, Madras, situated in 11° 45′ N. and 79° 5′ E., about 7 miles east of Kallakurchi town, at the intersection of the old road from Arcot to Trichinopoly with the road from Salem to Cuddalore. Its position on these main routes made it formerly of great strategical importance, and it was regularly fortified and garrisoned. Like the fortress of Tiruvannāmalai, it formed one of the bulwarks of the District against invasion from the west, and was the scene of much hard fighting in the Carnatic Wars. Between 1757 and 1780 it was regularly invested five times and blockaded once, and it repeatedly changed hands between the English, the French, and the Mysore ruler. It formed the rendezvous of Haidar's troops before joining Lally at Pondicherry, and here they again collected when retreating before Coote. In 1790 Captain Flint repulsed the attack made on the town by Tipū. The hill consists of two knolls or bosses, at the foot of one of which is a pool of excellent water under an overhanging rock partly surrounded by a low masonry wall. This water is said never to go dry, and during the exceptionally rainless season of 1876 there was a good supply in it when drinking-water was difficult to get in the village below. The village, which is built round the hill, is known by the same name. It is a Union under the Local Boards Act, with a population (1901) of 4,125.

Tyāmagondal.—Town in the Nelamangala *tāluk* of Bangalore District, Mysore, situated in 13° 12′ N. and 77° 18′ E., 2 miles from Dodbele railway station. Population (1901), 4,099. The town grew to its present dimensions owing to the settlement here of inhabitants who deserted Nijagal, a few miles to the north-west. It contains many merchants and traders in grain. The municipality dates from 1870. The receipts and expenditure during the ten years ending 1901 averaged Rs. 2,300. In 1903–4 they were Rs. 2,700 and Rs. 2,000.

Ubauro.—*Tāluka* of Sukkur District, Sind, Bombay, lying between 27° 48′ and 28° 26′ N. and 69° 36′ and 70° 14′ E., with an area of 466 square miles. The population rose from 40,923 in 1891 to 43,098 in 1901. The *tāluka* contains 79 villages, of which Ubauro is the headquarters. The density approximates to the District average. Land revenue and cesses amounted in 1903–4 to about 2 lakhs. The *tāluka*

receives a very uncertain supply of water from the Mahi Wah, and the cultivators are rather less prosperous than in other parts of Sind. There is a large area of *jāgīr* land within the *tāluka*.

Uch (*Uchh*='high place').—Town in the Ahmadpur *tahsīl* of the Bahāwalpur State, Punjab, situated in 29° 14′ N. and 71° 4′ E., 38 miles south-east of Bahāwalpur town, on the south bank of the Sutlej opposite its confluence with the Chenāb. Population (1901), 7,583. The municipality had an income in 1903–4 of Rs. 2,000, chiefly from octroi.

Archaeologically and historically Uch is a place of great interest. Sir Alexander Cunningham identified it with the city which Alexander the Great built near the meeting of the Punjab rivers. He believed that it is also the town mentioned by Rashīd-ud-dīn as the capital of one of the four principalities of Sind under Ayand, the son of Kafand. This identification is, however, far from certain. Uch was in the twelfth century known as Deogarh, 'the gods' stronghold'; and its ruler, Deo Singh, fled to Mārwār when the great Muhammadan missionary and saint Saiyid Jalāl-ud-dīn Bukhāri came to the place, converted Sundarpuri, Deo Singh's daughter, to Islām, and bade her build a fort called *uchha* or *uchh* ('high'). Since then it has been known to Muhammadans as Uch-i-Sharīf or 'Uch the Sacred.' In spite of its undoubted antiquity, Uch is not mentioned by the earlier Muhammadan historians under that name. Raverty, however, identified it with the town of Bhātiāh near Multān, mentioned by the historians of the Ghaznivid period as taken by Mahmūd of Ghazni in 1006. Subsequently recaptured by Muhammad of Ghor, it became the chief city of Upper Sind under Nāsir-ud-dīn Kubācha, and was burnt by Jalāl-ud-dīn Khwārizmi in 1223. It was afterwards taken by Altamsh. Uch was a great centre of Muhammadan learning; for in 1227 we find Minhāj-ud-dīn, the Persian historian, made chief of the Fīrozi college there. Changes in the courses of the rivers gradually robbed it of its strategic importance; and after many vicissitudes it was permanently annexed to the Mughal empire under Akbar, being included by Abul Fazl among the separate districts of the *Sūbah* of Multān. Uch is now a group of three villages, built on as many mounds, the débris of successive cities. It is still a place of great religious sanctity in the eyes of Muhammadans, and contains countless shrines, in charge of the Bokhāri and Gilāni Makhdūms, who are descended from its original founders. Sir A. Cunningham compiled an interesting but unreliable account of Alexander's operations in the country round Uch.

[A. Cunningham, *Ancient Geography of India*, pp. 242–8.]

Uchad.—Petty State in Rewā Kāntha, Bombay.

Udaipur State (1).—Tributary State in the Central Provinces, lying between 22° 3′ and 22° 47′ N. and 83° 2′ and 83° 48′ E., with an

area of 1,052[1] square miles. Till 1905 it was included in the Chotā Nāgpur States of Bengal. It is bounded on the north by Surgujā; on the east by Jashpur and Raigarh; on the south by Raigarh; and on the west by the District of Bilāspur. On the north it is walled in by the great plateau of Mainpāt in Surgujā, which rises to a height of 3,781 feet above the sea. From the edge of this table-land, which forms the watershed for streams running north and south, a steep descent of 1,500 feet leads down to the fertile valley of the river Mānd, and is continued in a succession of terraces to Raigarh on the southern boundary of the State. The chief geological formation of Udaipur is a coarse carboniferous sandstone, appearing on the west in a low range of hills which divides the small river Koergā from the Mānd. Coal, gold, iron, mica, laterite, and limestone exist, but no regular investigation has yet been made into the mineral resources of the State. A coal-field situated 2 miles east of Dharmjaygarh is worked for brick burning, and lime is extracted from a limestone quarry about 8 miles north-east of the town. The only hill of any size is Lotta (2,098 feet). The Mānd river, which rises in Surgujā and receives the drainage of the southern face of the Mainpāt plateau, follows a winding course towards the south-west and joins the Mahānadī in Raigarh. Its channel is deeply cut through the sandstone rocks in a series of alternate rapids and pools, and the river is not navigable in any part of its course within Udaipur. The scenery is wild; and forests, which are at present of no great marketable value owing to the want of good means of communication, cover the greater portion of the State. The principal trees are *sāl* (*Shorea robusta*), *mahuā* (*Bassia latifolia*), *kusum* (*Schleichera trijuga*), and *tendu* (*Diospyros melanoxylon*). The jungles contain tigers, bears, leopards, wild hog, bison, and several kinds of deer; wild elephants occasionally stray in from the south.

Udaipur, in common with the rest of the Surgujā group of States, was ceded to the British Government by the provisional agreement concluded with Mudhojī Bhonsla (Appa Sāhib) in 1818. Ever since the conquest of Surgujā by the Raksel Rājputs, Udaipur formed an apanage of a younger branch of the reigning family in that State; and at the time of its transfer to the British, Kalyān Singh, then chief of Udaipur, paid tribute through Surgujā. In 1852 the chief and his two brothers were convicted of manslaughter and sentenced to imprisonment, and Udaipur escheated to Government. At the time of the Mutiny in 1857 the former chief and his brothers made their way back to Udaipur and established a short-lived rule. In 1859 the survivor of the two brothers was captured, convicted of murder and rebellion, and transported for life to the Andaman Islands. Subse-

[1] This figure, which differs slightly from the area shown in the *Census Report* of 1901, was supplied by the Surveyor-General.

quently, in 1860, the State was conferred on a brother of the chief of Surgujā, who had rendered good service during the Mutiny. His grandson, the present Rājā, is a minor, and the State is under Government management. The capital is DHARMJAYGARH.

The recorded population rose from 37,536 in 1891 to 45,391 in 1901; this large increase is due partly to a more accurate enumeration, and partly to the country having been rendered more accessible by the opening of the Bengal-Nāgpur Railway. The population is contained in 196 villages, and the density is 43 persons per square mile. Hindus number 41,373 and Animists 3,897. The aboriginal Kaurs (18,000) are the most numerous tribe, but the Bhuiyās, Chiks, Gonds, Majwārs, Mundās, Oraons, and Pāns, with from 4,000 to 2,000 each, are also well represented. About three-fourths of the population are agriculturists, and the majority of the remainder are labourers indirectly dependent on agriculture. The staple food-grain is rice, supplemented by maize and various pulses. Rice, *mahuā*, *chiranji* (an edible oily nut like the pistachio), horns, hides, wax, lac, and *ghī* are exported; and salt, tobacco, cotton cloth, *gur*, and spices are imported.

The relations of the chief with the British Government are regulated by a *sanad* granted in 1899, and reissued in 1905 with a few verbal changes due to the transfer of the State to the Central Provinces. Under this *sanad* the chief was formally recognized and permitted to administer his territory subject to prescribed conditions, and the tribute was fixed for a further period of twenty years, at the end of which it is liable to revision. The chief is under the general control of the Commissioner of Chhattīsgarh as regards all important matters of administration, including the settlement and collection of land revenue, the imposition of taxes, the administration of justice, arrangements connected with excise, salt, and opium, and disputes in which other States are concerned; and he cannot levy import and export duties or transit dues, unless they are specially authorized by the Chief Commissioner. He is permitted to levy rents and certain other customary dues from his subjects, and is empowered to pass sentences of imprisonment up to five years and of fine to the amount of Rs. 200; but sentences of imprisonment for more than two years and of fine exceeding Rs. 50 require the confirmation of the Commissioner. Heinous offences calling for heavier punishment are dealt with by the Political Agent, Chhattīsgarh Feudatories, who exercises the powers of a District Magistrate and Assistant Sessions Judge; the Commissioner occupies the position of a Sessions Court in respect of such cases, while the functions of a High Court are performed by the Chief Commissioner.

The total revenue of the State in 1904-5 was Rs. 93,000, of which

more than half was derived from maintenance grants called *khorposh-dāris* in the Sirgujā State; Rs. 54,000 was derived from land, and Rs. 20,000 from forests. The total expenditure was Rs. 78,000, of which Rs. 37,000 was spent on administration, Rs. 11,000 on domestic charges, and Rs. 13,000 on public works. The tribute payable to Government is Rs. 800. The current land revenue demand in the State itself is Rs. 17,500. The collection of revenue is effected as a rule through *gaontiās* or headmen, who have no proprietary rights; but, in practice, villages generally pass from father to son. The State maintains a salaried police force of 7 officers and 50 men, in addition to the village police, who are remunerated by grants of land; the cost of maintaining the former in 1904-5 was Rs. 4,500. There is a jail at Dharmjaygarh with accommodation for 50 prisoners, and a dispensary at which 5,700 patients, both indoor and outdoor, were treated in the same year; a new hospital has also recently been built. Altogether 215 miles of roads are now maintained by the State. In 1901 only 229 persons were able to read and write; but since the management of the State was undertaken by Government, 4 primary schools have been opened. In 1904-5 there were 9 schools with an attendance of 250 pupils. In the same year 1,340 persons were successfully vaccinated.

Udaipur State (2) (also called Mewār).—State situated in the south of Rājputāna, between 23° 49′ and 25° 58′ N. and 73° 1′ and 75° 49′ E., with an area of 12,691 square miles. It is bounded on the north by the British District of Ajmer-Merwāra and the Shāhpura chiefship; on the west by Jodhpur and Sirohi; on the south-west by Idar; on the south by Dūngarpur, Bānswāra, and Partābgarh; on the east by Sindhia's district of Nīmach, the Tonk district of Nīmbahera, and the States of Būndi and Kotah; and on the north-east by Jaipur. In the centre of the State lies the Gwalior *pargana* of Gangāpur, comprising 10 villages; towards the east is the Indore *pargana* of Nandwās with 29 villages; and in the south-east the territories of several States interlace, while portions of Gwalior, Indore, and Tonk are encircled on all sides by Mewār. Similarly, numerous patches of Mewār territory are entirely separated from the main body of the State: namely, one in Shāhpura on the north, another in Jodhpur on the north-west, a third in Idar on the south-west, and several in Gwalior on the south-east and east.

Physical aspects.

The northern and eastern portions of the State consist of an elevated plateau of fine open undulating country sloping gradually to the north-east, while the southern and western portions are entirely covered with rocks, hills, and dense jungle. The whole of the mountainous country in the south-west is politically known as the Hilly Tracts of Mewār, and embraces the wildest portion of the ARĀVALLI HILLS. This range enters the

State from Merwāra at a height of 2,383 feet above sea-level, and is at first only a few miles in breadth; but continuing in a south-westerly direction along the Mārwār border it gradually increases in height and extends over the south-western portion of the State, where it attains a breadth of about 60 miles. The highest peak is 4,315 feet above the sea, at 24° 58′ N. and 73° 31′ E. In the south-eastern corner a range of hills runs from Barī Sādri to the Jākam river, while to the east of Chitor is a series of hills, all running north and south, and forming narrow confined valleys parallel to each other. The two highest points are just over 2,000 feet above the sea, but the average height is about 1,850 feet. On the eastern border is the cluster of hills on which the fort of Māndalgarh is situated, the starting-point of the central Būndi range, and in the north-east corner is another distinct range extending to the town of Jahāzpur. The principal rivers are the CHAMBAL and its tributary the BANĀS. The former flows for only a few miles through the State in the east near Bhainsrorgarh, where it is joined by the Bāmani. The Banās rises in the Arāvalli Hills near Kūmbhalgarh, and after a course of about 180 miles, generally east-by-north-east, leaves the State not far from the cantonment of Deoli. Its chief affluents in Mewār are the Berach and the Kothāri. The former rises in the hills north of Udaipur city, and till it flows into the Udai Sāgar, a lake close to the capital, is usually called the Ahār, after the village of that name. After leaving the Udai Sāgar it flows east-by-north-east past Chitor, and eventually joins the Banās near Māndalgarh after a total course of about 130 miles. The Kothāri rises in the hills near Dewair, and flows for about 90 miles almost due east across the plains before it falls into the Banās. Other rivers are the Khāri in the north, and the Som and its tributary the Jākam in the south.

Numerous lakes and tanks are scattered throughout the State, the finest being the DHEBAR or Jai Samand, the Rāj Samand at Kankroli, and the Udai Sāgar, the Pichola, and the Fateh Sāgar at or near the capital.

The rocks of Udaipur consist for the most part of schists belonging to the Arāvalli system. To the east and south-east of Udaipur city are found ridges of quartzite belonging to the Alwar group of the Delhi system. With them are associated bands of conglomerate containing boulders and pebbles of quartzite in a schistose quartzitic matrix, but the position of these formations is not well established. East of these beds a large area of granitic gneiss, upon which some outliers of the Arāvalli and Delhi schists and quartzites rest unconformably, extends to Chitor, where it is covered by shales, limestone, and sandstone belonging to the Lower Vindhyan group. Traces of copper have been found near Rewāra in the centre of the State, and at Boraj and Anjani in the south; and in olden days the lead mines at Jāwar were extensively

worked. Iron occurs at many places in the east and north-east, and garnets are found in the Bhīlwāra district.

Antelope and 'ravine deer' (gazelle) abound in the open country, and in the cold season the numerous tanks are usually thronged with wild-fowl. Leopards and wild hog are common in and near the hills. Tigers, bears, and *sāmbar* (*Cervus unicolor*) are found in the Arāvallis from Kūmbhalgarh to Kotra, in the Chhotī Sādri district in the south-east, and in the Bhainsrorgarh and Bijolia estates in the east. *Chītal* (*Cervus axis*) confine themselves to the vicinity of the Jākam river.

The climate is healthy and the heat never excessive. The mean temperature at the capital during the eight years ending 1905 (an observatory was first started in 1898) was about 77°, varying from 61° in January to 89° in May; and the mean daily range was about 24°.

The annual rainfall at the capital since 1880 has averaged about $24\frac{1}{4}$ inches, of which 14 inches are received in July and August. There is usually more rain in the south-west, the averages for Kherwāra and Kotra being $26\frac{1}{2}$ and $31\frac{1}{2}$ inches respectively. The maximum fall recorded in any one year was $59\frac{1}{2}$ inches at Kotra in 1893, while the minimum was 4 inches at the Dhebar lake in 1899.

History.

The Mahārānās of Mewār are the highest in rank and dignity among the Rājput chiefs of India, claiming descent from Kusa, the elder son of Rāma, king of AJODHYĀ and the hero of the Rāmāyana. No State made a more courageous or prolonged resistance to the Muhammadans; and it is the pride of this house that it never gave a daughter in marriage to any of the Musalmān emperors, and for many years ceased to intermarry with the other Rājput families who had formed such alliances. According to the chronicles, the last of the descendants of Kusa to rule over Oudh was Sumitra, and some generations later Kanak Sen founded the kingdom of Vallabhi in Kāthiāwār. The rulers of Vallabhi fell before barbarian invaders, and Silāditya, the chief, was killed. His posthumous son, Gohāditya, ruled in Idar and the hilly country in the south-west of Mewār, and from him the clan took the name of Gohelot or Gahlot. The sixth chief after Gohāditya was Mahendrajī II, better known as Bāpā. He had his capital at Nāgdā, a few miles to the north of Udaipur city, and, when he grew up, left it to seek his fortune at Chitor, where Rājā Mān Singh of the Mori clan of Rājputs was ruling. The story runs that he led the Chitor forces against the Muhammadans on their first invasion of India from Sind, and that, after defeating and expelling them, he ousted Mān Singh in 734 and ruled in his stead, taking the title of Rāwal.

Little, however, is known of the history of the State till the early part of the fourteenth century. At this time Ratan Singh I was the chief; and his rule is memorable for the sack of Chitor by Alā-ud-dīn Khiljī

in 1303, after a siege which is said to have lasted for six months. Ratan Singh was among the killed, and the conqueror entrusted the fort to his son, Khizr Khān, and called it Khizrābād after him. In the time of Ratan Singh's successor, Karan Singh I[1], Mewār was invaded by Mokal Singh, the Parihār Rānā of Mandor, the old capital of Mārwār. Karan Singh sent his eldest son, Māhup, against the invader, and on his failure, entrusted the task to a younger son, Rāhup, who speedily defeated the Parihār and brought him back prisoner. For this exploit Rāhup was declared heir apparent, and received the title of Rānā, while his elder brother left the State and conquered the territory now known as Dūngarpur, where he ruled as Rāwal. Rāhup was thus the first Rānā of Mewār; and it was he who changed the name of his clan from Gahlot to Sesodia, an appellation derived from Sesoda, the village where he lived. The next six chiefs ruled for very brief periods, and all died in attempts to regain Chitor. The fort was recovered by Rānā Bhuvān Singh, but was almost immediately after retaken by Muhammad bin Tughlak towards the middle of the fourteenth century when Lakshman Singh was Rānā. The latter and seven of his sons were killed during the siege, and the government of the fort and neighbouring country was made over to Māldeo, the Chauhān chief of Jālor in Mārwār. Rānā Hamīr Singh I, second in succession to Lakshman Singh, at once made preparations to recapture Chitor, and by marrying the daughter of Māldeo was not long in attaining his object. Muhammad bin Tughlak brought a large army to recover the fortress, but was defeated and taken prisoner at Singoli, close to the eastern border of Mewār, and was not liberated till he had paid a large ransom, said to have been 50 lakhs of rupees and 100 elephants, and ceded several districts. Hamīr Singh died in 1364, and during the next century and a half the arms of Mewār were successful and the State prospered. In the time of Rānā Laksh Singh or Lākhā (1382–97), lead and silver mines were discovered at Jāwar; and the proceeds were expended in rebuilding the temples and palaces levelled by Alā-ud-dīn, and in making dams so as to form reservoirs and lakes. Rānā Kūmbha (1433–68) defeated Mahmūd Khiljī of Mālwā and kept him prisoner at Chitor for six months; he also gained victories over Kutb-ud-dīn of Gujarāt and the Musalmān

[1] The account in the text is that usually accepted; but, according to a manuscript of the fifteenth century recently discovered at Udaipur, Karan Singh ruled towards the end of the twelfth century, nine generations before Ratan Singh, and in his time the family was divided into two branches, the senior remaining at Chitor with the title of Rāwal and the junior settling at Sesoda with the title of Rānā. This continued for more than 100 years, and when Alā-ud-dīn besieged Chitor in 1303, Ratan Singh was Rāwal and Lakshman Singh Rānā; the latter came to the assistance of his kinsman and both were killed in the sack. The fort remained in the possession of the Musalmāns till the time of Muhammad bin Tughlak, and was never besieged by him, but was recovered by Rānā Hamīr Singh as stated in the text. For further details, see *Rājputāna Gazetteer*, vol. ii (in the press).

governor of Nāgaur in Mārwār; and he erected the triumphal pillar (*Jai Stambh*) at Chitor and numerous forts, the chief of them being Kūmbhalgarh. Rānā Rai Mal (1473–1508) also fought with the ruler of Mālwā, and conquered Ghiyās-ud-dīn.

We now come to the time of Rānā Sangrām Singh I, or Sanga, when Mewār reached the summit of its prosperity and is said to have yielded a revenue of ten crores. The boundaries are described as extending from near Bayānā on the north and the Sind river on the east to Mālwā in the south and the Arāvallis on the west. Tod tells us that 80,000 horse, seven Rājās of the highest rank, nine Raos, and 104 chiefs bearing the titles of Rāwal or Rāwat, with 500 war elephants, followed Rānā Sanga into the field. Before he was called on to contend with the house of Tīmūr, he had gained eighteen pitched battles against the sovereigns of Delhi and Mālwā, in two of which he had been opposed by Ibrāhīm Lodī in person. On one occasion he captured Mahmūd II of Mālwā and released him without ransom, an act of generosity which even the Musalmān historians praised; and his successful storming of the strong forts of Ranthambhor and Khāndhār (now belonging to Jaipur) gained him great renown. Such was the condition of Mewār at the time of the emperor Bābar's invasion. The Mughal prince, having defeated Ibrāhīm Lodī and secured Agra and Delhi, turned his arms against Rānā Sanga, and the opposing forces met at KHĀNUA in March, 1527. In the preliminary skirmishes the Rājputs were successful, but were eventually defeated with great slaughter. According to the Mewār chroniclers, this reverse was largely due to the desertion of Salehdi, the Tonwar chief of Raisen (now in Bhopāl), who went over to Bābar with 35,000 horse. Rānā Sanga was wounded in this battle, and was carried to the village of Baswa in Jaipur, where he died in the same year. His son, Ratan Singh II, after ruling for four years, was killed by Rao Sūraj Mal of Būndi, whom he killed simultaneously, and was succeeded by Vikramāditya, who alienated the attachment of his nobles by neglecting them for men of low degree. Taking advantage of the feud which thus arose, Bahādur Shāh of Gujarāt invaded Mewār and took Chitor in 1534. The fort was as usual gallantly defended; but, though the Rāthor queen-mother is said to have personally headed a sally in which she was slain, it was of no avail. As on the two previous occasions when Chitor fell, the funeral pyre was lighted, the women ascended it, and the garrison rushed forth to destruction. The emperor Humāyūn marched against Bahādur Shāh and defeated him near Mandasor; whereupon Vikramāditya regained his capital, but, continuing his insolence to his nobles, was assassinated in 1535 by Banbīr, the natural son of Rānā Sanga's brother. Banbīr ruled for about two years, when he was dispossessed by Udai Singh (1537–72). He founded Udaipur city in 1559, and eight years later (1567) occurred the last siege and

sack of Chitor, on this occasion at the hands of the emperor Akbar. The Rānā abandoned the fort early in the siege, but his absence did not facilitate its capture. There was still a strong garrison led by such heroes as Jai Mal of Badnor and Pattā of Kelwa, but notwithstanding their gallant efforts the fort was taken. Of the garrison, which consisted of 8,000 soldiers and 40,000 inhabitants, 30,000 are said to have been slain, and most of the rest were taken prisoners. Udai Singh was succeeded by his eldest son, Pratāp Singh I (1572–97). Sheltered in the hills, he caused the plains of Mewār to be desolated with the view of impeding the imperial forces; but he suffered a severe defeat at Haldighāt in 1576, and, being hemmed in by the numerous armies of the emperor, fled towards Sind, and had actually descended the Arāvallis when his minister, Bhīm Sāh, offered his accumulated wealth. Collecting his straggling adherents, the Rānā suddenly returned, and, surprising the imperial forces at Dewair, cut them to pieces; and he followed up his advantage with such celerity and energy that in a short campaign he recovered nearly all his territory and remained in undisturbed possession till his death. He was succeeded by his son, Amar Singh I, in whose time Jahāngīr determined upon the entire subjugation of Mewār. He installed at Chitor, as Rānā, Amar Singh's uncle, Sagra, who had come over to his side; and he dispatched a large force under his son, Parwez, but it was completely defeated near Untāla. Reinforcements under Mahābat Khān and Abdullah failed to effect the desired object, so the emperor moved his camp to Ajmer, with the avowed intention of placing himself at the head of the troops employed against the Rānā. The army was, however, really commanded by his son Khurram, afterwards Shāh Jahān, and it plundered Mewār. Rānā Amar Singh, recognizing that further opposition was hopeless, made his submission to the emperor in 1614, on the condition that he should never have to present himself in person, but could send his son in his place. This stipulation being accepted, the heir apparent, Karan Singh, accompanied Khurram to Ajmer, where he was magnanimously treated by Jahāngīr, and shortly afterwards the imperial troops were withdrawn from Chitor. Amar Singh died in 1620; and throughout the rule of his son, Karan Singh (1620–8), and his grandson, Jagat Singh I (1628–52), Mewār enjoyed perfect tranquillity. On Aurangzeb imposing the capitation tax (*jazia*) on Hindus, Rānā Rāj Singh I, who ruled from 1652 to 1680, remonstrated in a dignified letter; and this so enraged the emperor that he sent an overwhelming army which destroyed many temples and idols at Chitor, Māndalgarh, Udaipur, and other places which fell into its hands. The country was visited by a terrible famine in 1662; and, to relieve the population, the Rānā built the dam which forms the well-known lake at KANKROLI called after him Rāj Samand. He was succeeded by his son Jai Singh, who ruled till 1698. In 1681 he concluded a treaty with

Aurangzeb, in which the right of imposing the capitation tax was renounced, and he subsequently constructed the dam of the famous DHEBAR LAKE (Jai Samand). Amar Singh II (1698–1710) formed an alliance with the Mahārājās of Jodhpur and Jaipur for mutual protection against the Muhammadans. It was one of the conditions of this compact that these chiefs should regain the privilege of marriage with the Udaipur family, which had been suspended since they had given daughters in marriage to the emperors; but the Rānā unfortunately added a proviso that the son of an Udaipur princess should succeed in preference to any elder son by another mother. The quarrels to which this stipulation gave rise led to the conquest of the country by the Marāthās, at whose hands Mewār suffered more cruel devastations than it had ever been subjected to by the Muhammadans. Amar Singh was succeeded by Sangrām Singh II (1710–34), who was followed by Jagat Singh II (1734–51). In his time the Marāthā power waxed greater, and the surrender to them by Muhammad Shāh of the *chauth*, or one-fourth part of the revenues of the empire, opened the door to a similar demand from all the territories subordinate to it. Accordingly, in 1736, the Rānā concluded a treaty with Bājī Rao Peshwā by which he agreed to pay him 1·6 lakhs annually. A few years later, the proviso in the triple compact already noticed began to have results. Mahārājā Sawai Jai Singh of Jaipur had a son, Mādho Singh, by a daughter of Rānā Amar Singh II, and an elder son, Isri Singh, by another wife. To defeat the proviso and strengthen Isri Singh, he married the latter to a daughter of the Rāwat of Salūmbar, the most powerful of the Udaipur nobles, so as to secure for him a strong party in Mewār itself. On Jai Singh's death in 1743, Isri Singh succeeded at Jaipur; but Rānā Jagat Singh supported by arms the claims of Mādho Singh and, on being defeated, called in the aid of Malhār Rao Holkar and agreed to pay him 80 lakhs[1] on the deposition of Isri Singh. The latter is said to have poisoned himself, while Holkar received in part payment the rich district of Rāmpura. Thereafter it became the custom, for the redress of any real or supposed wrong, to call in the aid of the Marāthās, who thus obtained a firm footing in Mewār, and became the referees in all disputes and the virtual masters of the country. The successors of Jagat Singh were Pratāp Singh II (1751–4), Rāj Singh II (1754–61), Ari Singh II (1761–73), and Hamīr Singh II (1773–8). During their rule the ravages and exactions of the Marāthās continued. The nobles of the State formed a party to depose Ari Singh and set up a youth named Ratna, alleged to have been the posthumous son of the previous Rānā. To succeed in their designs they called in Sindhia, who, after defeating Ari Singh in a severe battle near Ujjain in 1769, invested Udaipur city and declined to raise the siege till he had been promised $63\frac{1}{2}$ lakhs.

[1] Some say 64 lakhs, others 100.

About half of this sum was paid in specie, and the districts of Jāwad, Jīran, and Nīmach were mortgaged for the remainder. Not long afterwards, Sindhia dismissed the Rānā's officers from these territories, which were thus lost to Mewār. In 1771 the district of Godwār, which had been made over temporarily to Mahārājā Bijai Singh of Jodhpur to preserve it from the pretender, was also lost, as the Jodhpur chief declined to give it up; and, a few years later, Holkar made himself master of Nīmbahera and other tracts. It has been estimated that up to 1778 the Marāthās had extracted from Mewār about 181 lakhs in cash and territory of the annual value of 28 lakhs. Bhīm Singh II was Rānā from 1778 to 1828; and for the greater part of this period his territory was laid waste by the armies of Sindhia, Holkar, and Amīr Khān, and by many hordes of Pindāri plunderers, while his own nobles were not slow in usurping crown lands. The distractions were increased by a ruinous war between the chiefs of Jaipur and Jodhpur for the hand of the Rānā's daughter, Krishna Kunwari. At length, in 1817, the British Government resolved to extend its influence and protection over the States of Rājputāna, and Bhīm Singh eagerly embraced the opportunity. A treaty was made in 1818, under which the tribute payable to the British Government was to be one-fourth of the revenues for five years and thereafter three-eighths in perpetuity. In 1826, however, the tribute was fixed at 3 lakhs in the local currency, and in June, 1846, this was reduced to 2 lakhs (British). As the country was utterly disorganized and active interference was necessary to restore the State to prosperity, the Political Agent was directed to take the control of affairs into his own hands. The result was that the net revenues increased from 4·4 lakhs in 1819 to 8·8 lakhs in 1821; but, on British interference being gradually withdrawn, the State again became involved in debt. During the rule of Jawān Singh (1828–38) matters went from bad to worse; and his adopted son, Sardār Singh, succeeded in 1838 to an inheritance of debt amounting to about 20 lakhs, of which nearly 8 lakhs was on account of tribute. He ruled for only four years, and was followed by his younger brother, Sarūp Singh, who hospitably sheltered several English families during the Mutiny and died in 1861. Mahārānā Shambhu Singh ruled from 1861 to 1874. During his minority the administration was conducted by a Council, with the aid of the advice of the Political Agent; but this body worked badly, and it was eventually found necessary to entrust greater power to the Agent. The change was attended with success; and when the administration was handed over to the young chief in 1865, the cash balance in the treasury exceeded 30 lakhs. Shambhu Singh's liberality and good management during the famine of 1868–9 met with the cordial approval of Government, and he was created a G.C.S.I. in 1871. His successor was his first cousin, Sajjan Singh. As he was a minor, the State was managed for

about two years by a Council aided by the Political Agent; but he was invested with ruling powers in 1876, and in 1881 was created a G.C.S.I. In his time settlement operations were started in certain *khālsa* districts, and an agreement providing for the suppression of the manufacture of salt and the abolition of transit duty thereon was concluded with the British Government. In 1884, on the death of Sajjan Singh without issue, the unanimous choice of the family and leading men fell on Fateh Singh, a descendant of the fourth son of Rānā Sangrām Singh II; and the selection having been confirmed by Government, he was installed in 1885. For a few months he carried on his duties with the assistance of the Resident, and was then invested with full powers. He was created a G.C.S.I. in 1887; and in the same year, in commemoration of Her late Majesty's Jubilee, he abolished transit dues within his State on all articles except opium. In 1897 his personal salute was raised to 21 guns. Among other important events of his rule are the construction of the railway from Chitor to the capital, the introduction of a settlement, and the disastrous famine of 1899–1900. The chief bears the titles of His Highness and Mahārānā, and ordinarily receives a salute of 19 guns.

Mewār is rich in archaeological remains. Stone inscriptions dating from the third century B.C. to the eighteenth century A.D. are numerous, but none has been found on copper of a date earlier than the twelfth century. Among buildings, the oldest are probably the two *stūpas* at Nagari. On the lofty hill of CHITOR stand the two well-known towers, the *Kīrtti Stambh* of the twelfth or thirteenth century, and the *Jai Stambh* of the fifteenth century; and several temples and palaces. Ancient temples, many of which are exquisitely carved, exist at Barolli near BHAINSRORGARH; at BIJOLIA; at Menāl near BEGŪN; and at Eklingjī and Nāgdā not far from UDAIPUR CITY.

Population.

Excluding the 94 Mewār villages situated in the British District of Merwāra, which, under an arrangement arrived at in 1883, are managed by the Government of India, but over which the Mahārānā still retains other rights, the State contains 6,044 towns and villages, and its population at the three enumerations was: (1881) 1,494,220, (1891) 1,845,008, and (1901) 1,018,805. These figures show an increase in population during the first decade of about 23 per cent. and a decrease during the second decade of nearly 45 per cent. But it must be remembered that the Census of 1901 was the first complete one taken in Mewār. At neither of the earlier enumerations were the Bhīls regularly counted; a very rough estimate was made of their numbers, and the figures so arrived at have been included in the totals. A large decrease in population certainly occurred between 1891 and 1901, due to a series of indifferent seasons culminating in the great famine of 1899–1900, and to a severe type of malarial fever which prevailed in the autumn of 1900, and is said to

have carried off more victims than the famine itself. The territory is divided into 17 districts, of which the larger are called *zilas* and the smaller *parganas*; it also includes the two *bhūmāts* of Kherwāra and Kotra, held by petty Girāsiā chiefs, and the 28 *jāgīr* estates of the principal nobles of Mewār. The chief towns are UDAIPUR CITY, BHĪLWĀRA, NĀTHDWĀRA, and CHITOR. The following table gives the chief statistics of population in 1901:—

Subdivision.	Number of Towns.	Number of Villages.	Population.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Bhīlwāra *zila*	2	205	66,565	− 30·9	3,123
Chitor ,,	1	440	66,004	− 50·9	3,325
Chhotī Sādri ,,	1	209	31,662	− 34·1	773
Devasthān ,,	...	102	23,622	− 43·3	483
Jahāzpur ,,	1	489	124,267	− 31·7	6,985
Girwa ,,	1	306	42,150	− 50·8	1,675
Kapāsan ,,	...	142	28,371	− 45·8	685
Magrā ,,	...	328	48,460	− 48·2	1,227
Māndalgarh ,,	...	258	33,619	− 60·2	532
Rāsmi ,,	...	100	26,897	− 42·5	890
Sahran ,,	...	274	53,850	− 46·1	1,783
6 *parganas*	...	594	127,147	− 41·1	4,582
2 *bhūmāts*	2	361	37,488	− 46·3	1,273
28 principal *jāgīr* estates	6	2,222	308,703	− 47·9	13,518
State total	14	6,030	1,018,805	− 44·8	40,854

Of the total population, 779,676, or over 76 per cent., are Hindus, and 134,114, or 13 per cent., Animists, while Jains number 64,623, and Musalmāns 40,072. The languages spoken are Mewārī (a variety of Mārwārī, one of the four main groups of Rājasthānī) and Bhīlī, a dialect based partly on Gujarātī.

Of castes and tribes, the most numerous is that of the BHĪLS, who number 118,000, or more than 11 per cent. of the entire population. Next come the Mahājans (94,000), the Brāhmans (94,000), and the Rājputs (92,000), each about 9 per cent. Other castes numerically strong are the Jāts (58,000), the Gūjars (50,000), and the Balais or village servants (41,000). The main occupation of the people is agriculture, more than 55 per cent. living by the land, while many others are partially agriculturists. The great cultivating classes are the Jāts, Gūjars, Mālis, Gadris, Dāngis, and Dhākars; but in almost every village Mahājans, Telis, Kumhārs, Brāhmans, &c., will be found practising agriculture, sometimes as their sole means of subsistence and sometimes in conjunction with their own peculiar functions.

In 1901 there were 184 native Christians, of whom 96 were Presbyterians, 61 Roman Catholics, and 23 belonged to the Anglican communion. The United Free Church of Scotland has had a branch

at the capital since 1877, and the Church Missionary Society at Kherwāra since 1881.

Agriculture.

The character of the soil varies a good deal, but the limits of each kind are marked with tolerable distinctness. To the south along the hills the so-called black cotton soil largely predominates, and in the Chhotī Sādri district in the south-east there is little else. It chiefly lies in wide level tracts; and where the surface of the country rises into undulations, it changes on the slopes to a brown or reddish loam, fertile with irrigation, but inferior otherwise to the black. Along the banks of rivers the soil is generally light and sandy, but possesses the greatest facility for irrigation; and consequently the best villages and most highly cultivated tracts are found in such localities. The Chitor district also contains a good deal of black soil, but near the hills the ground is red and stony. In Māndalgarh (in the east) and Jahāzpur (in the north-east) the surface is very undulating, and the soil is often light and covered with loose stones. The central and more southern districts exhibit the greatest diversity. Here may be seen wide plains of black soil and then an undulating tract of poor and rocky ground, while, wherever a river flows, on both sides are broad stretches of light sandy loam rendered fertile by irrigation and manure and bearing the most valuable crops. The most productive of all is unquestionably the black soil of the level plains; but the red loam of the slopes and the light sand of the river banks, though inferior in natural fertility, yield a rich return to careful cultivation. The poorest and most unmanageable is the thin and stony soil of the undulations.

Agricultural operations are very simple, and in the open country are of the usual kind. In the south the gorges and slopes of the hills are embanked into successive steps or terraces, which, during the rains, become so many swamps, draining one into the other. On the hill-sides, *wālar* or shifting cultivation is practised by the Bhīls. This consists of cutting down the woods and burning them on the ground, in order to clear room for a field which is manured by the ashes. The seed is scattered broadcast and, after a year or two, the soil is exhausted, and then another felling takes place. The system is most destructive to the forests.

The autumn and spring harvests are, in Mewār, called *siālu* and *unālu* respectively. The principal crops in the former are maize, *jowār*, *til*, cotton, and sugar-cane, while in the cold season the important staples are wheat, barley, gram, and poppy. No reliable agricultural statistics are available. The area of the districts in which the settlement has been introduced is about 2,076 square miles; and of this, 743 square miles, or about 36 per cent., are said to be under cultivation in ordinary seasons.

About one-fourth of the cultivated area is irrigated. Irrigation is mainly from wells, of which there are said to be at least 25,000 in the districts that have been settled and about 100,000 in the entire State. A layer of hard rock usually lies within a few feet of the surface and renders the construction of wells a task of great expense and labour. Water is raised by means of the Persian wheel or, when the spring-level is too far down for this contrivance, by the usual leathern bucket. In shallow wells, the Persian wheel is sometimes worked by the feet and is termed *pāvti*. There are said to be upwards of 100 large tanks in the *khālsa* portion of the State, and almost every village has a tank of some kind; but the area irrigated from this source in the districts that have been settled is small, being estimated at about 27 square miles, or one-seventh of the total irrigated area.

Forests.

The forests of Mewār occupy about 4,600 square miles, but they are not systematically worked. About 72 square miles are said to be 'reserved'; but even these are under no system of real conservancy, and the so-called Reserves are kept chiefly for sporting purposes and to a certain extent for the supply of forage and fuel for State requirements. Elsewhere, the people cut wood and graze their cattle at will, and forest fires rage throughout the dry months of the year. The best forests are in the west and south-west along the Arāvalli range, and in the south near Salūmbar, Dariāwad, and the Dhebar Lake. The more valuable trees, such as teak, black-wood, and ebony, are scarce, but the following are found in numbers:—*babūl* (*Acacia arabica*), banyan or *bar* (*Ficus bengalensis*), *ber* (*Zizyphus Jujuba*), *dhāk* (*Butea frondosa*) *gūlar* (*Ficus glomerata*), *haldu* (*Adina cordifolia*), *jāmun* (*Eugenia Jambolana*), *khair* (*Acacia Catechu*), *khejra* (*Prosopis spicigera*), *mahuā* (*Bassia latifolia*), mango, *nīm* (*Melia Azadirachta*), *pīpal* (*Ficus religiosa*), *sālar* (*Boswellia thurifera*), *shīsham* (*Dalbergia Sissoo*), *siris* (*Albizzia Lebbek*), and the tamarind, &c. The annual revenue derived from the sale of grass and minor produce, such as honey, wax, gum, &c., is about Rs. 15,000, and the expenditure about Rs. 9,000.

Minerals.

Mewār is rich in minerals, but they are hardly worked at all now. The lead and zinc mines at Jāwar, about 16 miles south of the capital, are said to have yielded up to 1766 a net revenue of two lakhs, and were worked till the famine of 1812. Prospecting operations were started in 1872, but great difficulty was experienced in removing water by manual labour, and the Mahārānā was not disposed to incur the cost of providing machinery. Two specimens of galena then found showed a very small proportion of silver, namely about 10½ ounces to a ton of lead. Iron mines are still worked in the eastern half of the State, but not to any great extent; and garnets are procurable at several places in the Bhīlwāra district.

Sandstone is abundant, especially in the hills near the Dhebar Lake and at Debāri; excellent white marble is found at Rājnagar and black marble near Chitor.

Trade and communications.

The manufactures consist of swords, daggers, embroidery, ivory and wooden bangles, and cotton cloths printed in gold and silver at the capital; tinned utensils at Bhīlwāra; stone toys and images at Rakhabh Dev; and leathern jars for *ghī* and oil at different places. A cotton-ginning and pressing factory is worked by the Darbār at Bhīlwāra.

The chief exports of Mewār are cotton, wool, opium, *ghī*, oilseeds, sheep and goats, cooking utensils, printed cloths, and, in good years, cereals; the chief imports are salt, tobacco, sugar, piece-goods, coco-nuts, and metals.

The Rājputāna-Mālwā Railway traverses the eastern half of the State from north to south, with a length of about 82 miles and 10 stations in Mewār. From Chitor, another line, the property of the Darbār, runs almost due west to the capital, and is consequently called the Udaipur-Chitor Railway. This line was opened for traffic in 1895 as far as Debāri, about eight miles from Udaipur city; it was worked by the Bombay, Baroda, and Central India Railway till the end of 1897, and subsequently by the Darbār. In 1898 the Mahārānā decided to extend the line to his capital, and this work was completed by 1899. The length of the Udaipur-Chitor Railway is a little over 67 miles, and the total expenditure to the end of 1905 was nearly 21 lakhs. In the year last mentioned the gross working expenses were Rs. 1,04,000 and the net revenue Rs. 1,03,000. The return of net revenue on capital has varied from 3·39 per cent. in 1896 to 9·37 per cent. in 1900, and averages about 5 per cent.

The total length of metalled roads is 142 miles and of unmetalled roads 257 miles. All these are maintained by the Darbār, except the one connecting Nasīrābād with Nīmach (82 miles unmetalled within Mewār limits). This road was constructed between 1866 and 1875 at a cost of about 2·8 lakhs, of which the Darbār contributed two-thirds and the British Government one-third; and about half of it was originally metalled, but, since the advent of the railway, it has been maintained as a fair-weather communication only. A useful road is that running south from Udaipur to Kherwāra, and thence north-west past Kotra to Rohera station in Sirohi. It is unmetalled and 120 miles in length to the Sirohi border.

There are 36 British post offices in the State, and four of them are also telegraph offices. In addition, a local postal system, called *brāhmani dāk*, is maintained for the conveyance of State and private correspondence to and from places not served by the British system. It is managed by a contractor, who receives Rs. 1,920 yearly from the

Darbār, and charges the public half an anna (in the local currency) per letter irrespective of weight.

Famine.

Famines are fortunately rare in Mewār. The first of which there is any record is that of 1662, when the principal relief work was the dam of the Rāj Samand at Kankroli. Famines are mentioned as having occurred in 1812–3, 1833–4, and 1868–9. In the last of these, Mahārānā Shambhu Singh was conspicuous in his efforts to relieve distress, and altogether spent about 5 lakhs, besides remitting transit duties on grain. In 1899 the rainfall was scanty, only 4 inches being received in some parts; the autumn crops failed and fodder was very scarce. Relief works and poorhouses were started in September and kept open for eleven months; but there was great difficulty in carrying grain to tracts remote from the railway, as most of the cattle had been removed or had died, and the price of camel or cart hire was prohibitive. Over the *khālsa* area the relief was on the whole adequate (though the Darbār's efforts were seriously hampered by the incapacity and misconduct of its officials), but, save in the estates of a few nobles, the relief measures elsewhere were unsatisfactory. More than 34 million units were relieved on works or gratuitously, and the total expenditure was about 25 lakhs. When the famine was at its height in May, 1900, cholera broke out with great severity and added to the difficulties. The population of Kherwāra was decimated, and 5 per cent. of the inhabitants of the capital died from this disease within a fortnight. A more recent scarcity in 1901–2 was due as much to a plague of rats as to scanty rainfall. It was confined to the western and south-western districts, and about three million units were relieved on works and gratuitously at a cost of two lakhs.

Administration.

The administration is carried on by the Mahārānā, assisted by two ministerial officers who, with a staff of clerks, form what is called the *Mahakma khās*, or chief executive department in the State. A *hākim* is in charge of each of the eleven *zilas* and six *parganas* into which Mewār is divided. Each *zila* is composed of two or more subdivisions with a *naib-hākim* in charge of each, but, with one exception (Kūmbhalgarh), there is no such official in a *pargana*.

The civil and criminal courts are guided generally by the Codes of British India, Hindu law, and local custom. The *naib-hākims* have no recognized powers, but exercise such as may be delegated to them by their *hākims*. The latter decide civil suits up to Rs. 5,000 in value, and can pass a sentence of imprisonment up to a term of one year, or in some cases only six months, and fine up to Rs. 500. Appeals against their decisions lie to the chief civil or criminal court at the capital, as the case may be. The judge of the former court can also decide suits not exceeding Rs. 10,000 in value, while the presiding officer of the

latter can sentence to three years' imprisonment and a fine of Rs.1,000. The next highest court is the *Mahendrāj Sabhā* or *Ijlās māmūli*, a council of eight members. It hears appeals against the orders of the courts immediately below it, and can itself decide suits not exceeding Rs. 15,000 in value and pass a sentence of seven years' imprisonment and Rs. 5,000 fine. This same court, when presided over by the Mahārānā in person, is called the *Ijlās kāmil* and is the highest court in the State, disposing of all serious and important cases. The Darbār claims full jurisdiction in all the *jāgīr* estates, save those of fourteen of the first-class nobles to whom limited powers were granted in 1878–9.

The revenue and expenditure of the State are now about 26½ and 26 lakhs a year respectively. The chief sources of revenue are (in lakhs):—land revenue, 13·6; customs (including payments made by Government under the Salt agreements of 1879), 7·2; the Udaipur-Chitor Railway, 2; and tribute from *jāgīrdārs*, about 1·3; while the main items of expenditure are army (including police), 7; privy purse and palace, 4; civil and judicial staff, 3·2; tribute to Government, 2; and public works, 1·8 lakhs. The State is believed to be free from debt. Besides British rupees, five different kinds of silver coins are current in Mewār: namely, *Chitori*, *Udaipuri*, *Bhīlāri*, *Sarūp shāhi*, and *Chandori*; but the first three are no longer minted. The rate of exchange with the British rupee fluctuates almost daily, depending generally on the condition of the export and import trade. In October, 1905, the exchange for 100 British rupees was approximately 121 *Sarūp shāhi*, or 127 *Chitori*, or 129 *Udaipuri*, or 145 *Bhīlāri*, or 257 *Chandori*. The State has also its small silver coins (8 annas, 4 annas, &c.), gold coins, and copper pieces (locally called *dhingla*) of which sixteen go to the anna.

The principal tenures in the State are *jāgīr*, *bhūm*, *sāsan*, and *khālsa*; and if the whole territory be divided into 13½ parts, 7 would be *jāgīr* or *bhūm*, 3 *sāsan*, and 3½ *khālsa*. Originally the word *jāgīr* was applied only to lands held on condition of military service; but it has since obtained a wider application, and grants of land, whether in recognition of service of a civil or political nature or as marks of the personal favour of the chief, have all been enrolled as *jāgīr*. Hence the *jāgīrdārs* may be divided into two classes: namely, Rājputs; and others, such as Mahājans, Kāyasths, &c. The Rājputs, with a few exceptions, pay a fixed annual quit-rent, called *chhatūnd*, because it was supposed to be one-sixth of the annual income of their estates, and also have to serve with their contingents for a fixed period annually. All pay *nazarāna* on the succession of a new Mahārānā and on certain other occasions, while most of them pay a fee called *kaid* on succeeding to their own estates. On the death of a *jāgīrdār*, his estate immediately becomes *khālsa* (i.e. reverts to the Darbār), and so remains until his son or successor is

recognized by the Mahārānā, when it is again conferred and a fresh *patta* or lease is given. An estate is not liable to confiscation, save for some grave political offence. *Jāgīrdārs*, other than Rājputs, do not pay the quit-rent above mentioned, but have to serve their chief when called on. Finally, if a *jāgīrdār* (Rājput or otherwise) have no son, he can adopt with the sanction of the Darbār. Those holding on the *bhūm* tenure pay a small quit-rent (*bhūm barār*), and can be called on for local service, such as watch and ward of their village, escorting of treasure, &c. So long as the *bhūmiās* do not neglect their duties, the tenure is perpetual, and no fee is paid on succession. *Sāsan* or *muāfi* lands are those given to Brāhmans, Gosains, and other priestly castes, as well as to Chārans and Bhāts. The holders neither pay tribute nor (save in the case of *chākrāna* lands) perform service. Lastly, no land held on any of the three tenures above described can be sold, though mortgages are not uncommon. The tenure in the *khālsa*, or crown lands, may be described as *ryotwāri*. The ryot is generally undisturbed in his possession so long as he pays the land revenue (*bhog* or *hāsil*). Two varieties may be distinguished: namely, *pakkā* or *bāpoti*, and *kachchā*. The former gives the occupier rights of mortgage and sale, and an indefeasible title to the land so long as he pays the assessment upon it. Even if ejected for non-payment or driven away by misfortune and losses, he may at any time reappear and claim the inheritance of his ancestors by paying the revenue in arrears, as well as that of the years in which the land remained uncultivated during his absence. Under the *kachchā* tenure, the occupier is little better than a tenant-at-will; the land is simply leased for cultivation and can at any time be resumed. In former days the land revenue was usually realized in kind, the State share varying from one-fourth to one-half of the produce; but in 1878 the Mahārānā decided to have a regular settlement. This was introduced in $10\frac{1}{2}$ of the 17 districts of Mewār between 1885 and 1893 for a term of twenty years, which has been extended. The revenue was assessed according to the class and value of the soil, and varies from $1\frac{1}{2}$ annas per acre on the worst land to Rs. 15 per acre on the best irrigated land. The area of the settled districts, according to the plane-table survey then made, was about 2,000 square miles. In districts not settled the land revenue is realized either according to the *batai* system, under which the Darbār takes from one-fourth to one-half of the gross produce in addition to some petty cesses, or according to the *bīghori* system. The latter is applied to poppy, cotton, and sugar-cane, and is a money rate on area varying with the crop sown and the nature of the soil. The rates per acre work out thus: poppy, Rs. 3 to Rs. 12; cotton, Rs. 1–2 to Rs. 7–8; and sugar-cane, Rs. 6–12 to Rs. 22–8.

The military force numbers 6,015 of all ranks: namely, 2,549 regulars and 3,466 irregulars. The regular troops consist of 1,750 infantry,

560 cavalry, and 239 gunners, and the irregulars of 3,000 infantry and 466 cavalry. The State owns 128 guns, of which 56 are said to be serviceable. This force costs the Darbār about 6½ lakhs a year. In addition, the usual contingent of horse and foot soldiers is supplied by the *jāgīrdārs*. Two British cantonments are maintained in the State: namely, KHERWĀRA and KOTRA, where the Mewār Bhīl Corps is located. The Darbār pays a sum of Rs. 66,000[1] a year towards the cost of this corps and the 44th Merwāra Infantry, the money being realized by Government from the revenues of the Mewār villages in Merwāra.

The police duties in the districts are performed by the irregular troops and the *jāgīr* contingents, under the immediate control of the various *hākims*. For the capital and suburbs and the railway to Chitor a special force is maintained of 537 men (of whom 36 are mounted) under a Superintendent. A Central jail at the capital has accommodation for 458 prisoners, and lock-ups exist at the head-quarters of each district. In 1905 the expenditure on the Central jail was about Rs. 25,000, and the cost of maintaining each prisoner was Rs. 54. The profit on jail manufactures (carpets, rugs, blankets, coarse cloth, rope, &c.) was Rs. 2,360.

In the literacy of its population Mewār stands sixth among the twenty States and chiefships of Rājputāna, with 4 per cent. (7·4 males and 0·2 females) able to read and write. Omitting indigenous schools such as *maktabs* and *pāthsālas*, there are 54 educational institutions in the State, and the daily average attendance in 1905 was about 2,500. Of these schools, 42 are maintained by the Darbār, seven by the United Free Church Mission, three by the Church Missionary Society, and two by the Mewār Bhīl Corps. There are only two secondary schools: namely, the high school at the capital and an Anglo-vernacular middle school at Bhīlwāra, which are attended by 440 boys. Five girls' schools have a daily average attendance of about 190. The total State expenditure on education is Rs. 24,000, of which rather more than half is derived from a small cess levied from the agriculturists of the settled districts. In the other districts a fee of one anna per student monthly is charged, but the children of the poor get their education free.

Including the military hospitals at Kherwāra and Kotra, the State contains fourteen hospitals and six dispensaries, of which fourteen are kept up by the Darbār, three by the Government, one by the United Free Church Mission, and two partly by Government and partly by private subscription. They have accommodation for 274 in-patients, and in 1905 the number of cases treated was 148,579 (1,996 being in-patients), and 6,603 operations were performed. The State expenditure is about Rs. 25,000 a year.

[1] The cost of administration of the Mewār villages in Merwāra is included in this sum (see Aitchison's *Treaties*, vol. iii, p. 12).

Vaccination is not compulsory. A staff of 19 vaccinators under a native Superintendent is maintained, and in 1905-6 the number of persons successfully vaccinated was 19,364, or 19 per 1,000 of the population.

[J. C. Brooke, *History of Mewār* (1859); *Rājputāna Gazetteer*, vol. iii (1880, under revision); A. Wingate, *Settlement Reports* (1881-9); *Report on Irrigation in the Mewār State* (Ajmer, 1903).]

Udaipur City.—Capital of the State of Mewār or Udaipur in Rājputāna, called after Rānā Udai Singh, who founded it in or about 1559. It is situated in 24° 35′ N. and 73° 42′ E., near the terminus of the Udaipur-Chitor Railway, 697 miles north of Bombay. The city is the fifth largest in Rājputāna, and in 1901 had a population of 45,976, as compared with 46,693 in 1891, and 38,214 in 1881. Hindus numbered 29,157, or more than 63 per cent. of the total; Musalmāns, 9,585, or over 20 per cent.; and Jains, 4,520, or nearly 10 per cent.

The situation of Udaipur forms its principal charm. The city stands on the slope of a low ridge, the summit of which is crowned by the Mahārānā's palace, and to the north and west the houses extend to the bank of a beautiful piece of water known as the Pichola lake. The view from the embankment across to the dark background of wooded hills, which close in round the western sides of this lake and supply the water, is as fine as anything in India. The palace is an imposing pile of buildings running north and south, and covering a space about 1,500 feet long by about 800 feet at the widest part. Fergusson has described it as 'the largest in Rājputāna, and in outline and size a good deal resembling Windsor; but its details are bad, and, when closely examined, it will not bear comparison with many other residences of Rājput princes.' But though the palace has been added to by almost every chief since 1571, when the oldest portion, the *Rai āngan* or 'royal courtyard,' is said to have been built, the want of plan and mixture of architecture do not spoil the general effect, and this very diversity is itself attractive. The Pichola lake is said to have been constructed by a Banjārā at the end of the fourteenth century, and the embankment was raised by Rānā Udai Singh. The lake is about 2¼ miles long by 1½ broad, and has an area of over one square mile. In the middle stand the two island palaces, the Jagmandir and the Jagniwās, the former built by Rānā Jagat Singh I in the first half of the seventeenth century and the latter by Jagat Singh II about a hundred years later. The Jagmandir is noted as the asylum of prince Khurram, afterwards the emperor Shāh Jahān, while in revolt against his father, Jahāngīr. The little palace then built for him consists of a round tower of yellow sandstone lined inside with marble slabs, three storeys in height and crowned by a handsome dome. The upper apartment is circular, about 21 feet in diameter, and Fergusson

thought it the prettiest room he knew in India. 'Its floor is inlaid with black and white marbles; the walls are ornamented with niches and decorated with arabesques of different coloured stones (in the same style as the Tāj at Agra, though the patterns are Hindu), and the dome is exquisitely beautiful in form.' Other objects of interest on this island are the little mosque, a room built of twelve enormous slabs of marble, and the throne sculptured from a single block of serpentine. The Jagniwās is about 800 feet from the shore, and consists of a collection of small apartments, courts, and gardens. The latter are filled with orange, mango, and other fruit trees, forming a perfect roof of evergreen foliage, broken only occasionally by a tall palm or cypress, and varied by the broad-leafed plantain. Of these two islands Fergusson writes that the only objects in Europe that can be compared with them 'are the Borromean islands in the Lago Maggiore, but I need scarcely say their Indian rivals lose nothing by the comparison; they are as superior to them as the Duomo at Milan is to Buckingham Palace. Indeed, I know of nothing that will bear comparison with them anywhere.' Another fine lake, connected by a small canal with, and lying to the north of, Pichola, is the Fateh Sāgar, constructed by, and named after, the present Mahārānā. It is about 1½ miles long by one mile broad; and the embankment, 2,800 feet long, is named after His Royal Highness the Duke of Connaught, who laid the foundation-stone in 1889. Among other objects of interest are the Sajjan Niwās gardens, well laid out and kept up; the Victoria Hall, a handsome building used as a library, reading-room, and museum, in front of which stands a statue of Her late Majesty; and the cenotaphs of the chiefs of Mewār in the old village of AHĀR.

The manufactures of Udaipur city are unimportant, consisting mainly of embroidery, cotton cloths stamped in gold and silver, and swords and daggers. The Central jail has accommodation for 458 prisoners, and is usually overcrowded, the daily average strength having been 481 in 1901, 672 in 1902, 526 in 1903, and 457 in 1904. Altogether eight schools (including two for girls) are maintained at Udaipur, five by the State and three by the United Free Church Mission, and are attended by about 800 pupils. The only notable institution is the Mahārānā's high school, in which English, Sanskrit, Persian, &c., are taught. It is affiliated to the Allahābād University, and is attended by about 260 boys. The city contains five hospitals and one dispensary; of the former, one is maintained by the mission and one by Government. The Lansdowne Hospital (opened in July, 1894) and the Shepherd Mission Hospital (opened in December, 1886) are both excellent institutions and deservedly popular. The Walter Hospital for women (opened in May, 1888) is also deserving of notice; it is a fine building containing 24 beds.

Of places of interest in the neighbourhood of Udaipur may be mentioned Eklingjī, situated in a narrow defile 12 miles to the north. Here in the eighth century Bāpā Rāwal constructed a temple to Mahādeo, who is worshipped under the epithet of Ekling, that is, 'with one *lingam*.' The original building was destroyed by the Muhammadans, but was rebuilt in the fifteenth century. The temple is of unusual design, having a double storeyed porch and sanctuary, the former covered by a flat pyramidal roof composed of many hundred circular knobs, and the latter roofed by a lofty tower of more than ordinary elaboration. Inside the temple is a four-faced image of Mahādeo made of black marble. Since Bāpā Rāwal's time, the chief of Mewār has been *Dīwān* or vice-regent of Eklingjī, and as such, when he visits the temple, supersedes the high priest in his duties and performs the ceremonies. A picturesque lake lies in the vicinity, and numerous other temples stand close by, that built in the sixteenth century by Mirān Bai, the wife of Bhoj Rāj, son of Sangrām Singh, being of singular elegance. Close to Eklingjī is Nāgdā or Nāgahrida, one of the most ancient places in Mewār. Here the Mahārānā's ancestors ruled for seven generations till the time of Bāpā. The principal temples are the Sās Bahu pair, said to be as old as the eleventh century, and dedicated to Vishnu. They are most beautifully carved, and adorned with artistic figures and sculpture in the very best taste. The Jain temple known as Adbudjī's is remarkable only for the great size of the images it contains, the largest, that of Sāntināth, being 6½ feet by 4 feet.

[The quotations from Mr. Fergusson are taken from his *Picturesque Illustrations of Ancient Architecture* (1848).]

Udaipur Village.—Head-quarters of the division of the same name in the State of Hill Tippera, Eastern Bengal and Assam, situated in 23° 31′ N. and 91° 29′ E. It is the old capital of the State, and abounds in ruins and possesses enormous tanks now overgrown with jungle. The temple of Tripureswarī is, with one exception, the most important in this part of Eastern Bengal, and is visited by thousands of pilgrims from all parts of the Province. It dates from the beginning of the sixteenth century.

Udaipur Town.—Principal town of a subdivision of the Shekhāwati *nizāmat* of the State of Jaipur, Rājputāna, situated in 27° 44′ N. and 75° 29′ E., about 60 miles north-by-north-west of Jaipur city. Though unfortified except by a few towers in ruins, the town is strong by situation, commanding a narrow and rocky defile through the Arāvalli Hills, which in this neighbourhood attain a height exceeding 3,000 feet above the sea. Population (1901), 8,638. A considerable body of the Nāga militia of the Jaipur State are quartered in the town; and it was here that, in the old days of their confederacy, the barons

of Shekhāwati assembled to decide the course of action to be pursued when any common or individual interest of theirs was menaced. According to Tod, the old name of the place was Kais or Kasumbi.

Udaiyārpālaiyam Tāluk.—North-eastern *tāluk* of Trichinopoly District, Madras, lying between 10° 54′ and 11° 26′ N. and 78° 59′ and 79° 30′ E., with an area of 753 square miles. It is bordered on the north by the Vellār river and on the south by the Coleroon. At the south-eastern extremity is the Lower Anicut across the latter river, over which passes the trunk road from Kumbakonam to Madras. The population in 1901 was 300,708, compared with 290,563 in 1891. Of the total area, 204 square miles are included in the Udaiyārpālaiyam and Ariyalūr *zamīndāris*. The towns are UDAIYĀRPĀLAIYAM (population, 7,553) and ARIYALŪR (7,370), and there are 228 villages. The headquarters of the *tahsīldār* are at Jeyamkondacholapuram. The general aspect of the *tāluk* is flat. The soil is for the most part a mixture of red sand and clay, but strips of alluvium run along the banks of the Vellār and Coleroon rivers and on the west. Throughout the greater part of the Ariyalūr *zamīndāri* the land is black cotton soil, thinly spread over a substratum of limestone. This *tāluk* benefits most by the north-east monsoon, and its average annual rainfall (39 inches) is almost the heaviest in the District. The area cultivated in 1903–4 was 361 square miles, the principal crops being rice, *cambu*, *rāgi*, *dāl*, ground-nuts, and gingelly. The demand for land revenue and cesses amounted to Rs. 4,01,000. About 17,600 acres of Government land and a considerable portion of the *zamīndāris* are covered with a jungle of low brushwood (*Memecylon edule*), of which large quantities are exported for fuel to Kumbakonam and villages in Tanjore District.

Udaiyārpālaiyam Town.—Town in the *tāluk* of the same name in Trichinopoly District, Madras, situated in 11° 11′ N. and 79° 18′ E. Population in 1901, 7,553, compared with 7,739 in 1891 and 5,703 in 1881. The town is the place of residence of the *zamīndār* of the same name, and the drop in the population in 1901 was due to his being absent, with a considerable following, at the time of the Census. The *zamīndār* is of the Vanniya caste, and his ancestors held the estate as *arasu-kāvalgārs* or 'heads of police.' Like so many other similar chiefs, they experienced many vicissitudes of fortune during the wars of the eighteenth century and the rule of the Nawāb of the Carnatic. At the time when Trichinopoly District was handed over to the East India Company in 1801 the *zamīndār* was in receipt of a monthly allowance of Rs. 1,000, and the estate was under the management of an agent of the Nawāb. In 1817 the British Government restored to him a portion of the estate, the annual value of which was equal

to 10 per cent. of the gross revenue, required him to pay a nominal *peshkash* of Rs. 640, and gave him a *sanad* (title-deed). The *zamīndāri* has recently been declared impartible.

The palace of the Udaiyārpālaiyam *zamīndār* is a remarkable building. It is very dilapidated in parts, and some incongruous new portions have been added; but even with these defects it contains decorative work which has been thought, to be among the finest in Southern India. It looks like work of the seventeenth century, is executed in rather soft stone, and was probably designed under Muhammadan influence. There is a polygonal watch-tower and some balustrade work on the outside; but the interior is the finest part. One of the big halls is in general design something after the fashion of Tirumala Naik's famous hall in Madura; but the spandrels of the arches are one mass of carving of birds, flowers, &c., showing fancy and spirit, while the arches themselves are worked out in tracery, with a niche above each column containing some god or saint. Above the level of the spandrels is a deep colonnade running round the whole hall, corresponding to the clerestory of an English cathedral, also one mass of spirited carving in relief. Some equally fine woodwork is said to exist within the palace. The building deserves careful study from an historical and architectural point of view.

Udalguri.—Village in the Mangaldai subdivision of Darrang District, Eastern Bengal and Assam, situated in 26° 46′ N. and 92° 7′ E., near the foot of the Himālayas. A fair is held here during the cold season, which is attended by the inhabitants of Towang, a province subject to Lhāsa. The principal articles imported are ponies, sheep, blankets, salt, and yaks' tails. The chief exports are rice, cotton and silk cloths, and brass utensils. The head-quarters of the hillmen are at Amratol, which is picturesquely situated in the gorge of the Dhansiri river, about 6 miles beyond the frontier. A *darbār* is held at Udalguri in the winter, when the Tibetan officials, known as Gelengs, are presented with the *posa* allowed them by the British Government. The effect is very picturesque, as the hillmen are attired in rich costumes of Chinese pattern, and are attended by crowds of quaintly-dressed retainers mounted on shaggy ponies. The fort at Udalguri is garrisoned in the cold season by 46 officers and men of the Lakhimpur military police battalion.

Udamalpet Tāluk.—South-western *tāluk* of Coimbatore District, Madras, lying between 10° 16′ and 10° 48′ N. and 77° 3′ and 77° 25′ E., with an area of 566 square miles. It contains one town, UDAMALPET (population, 10,503), the head-quarters; and 86 villages. The population rose from 139,430 in 1891 to 150,480 in 1901. The unusually high proportion of 3 per cent. are Muhammadans, who are better educated than in any other *tāluk* in the District except Coimbatore.

The demand for land revenue and cesses in 1903-4 amounted to Rs. 2,48,000. The greater part of the *tāluk* is an open plain, but the south contains a large portion of the Anaimalai Hills, and consequently between half and a third of the *tāluk* is covered with forest. It is traversed by the upper waters of the Amarāvati, which irrigate a small area. The rainfall is small, averaging only 22 inches annually. Most of the land is red earth, but there are tracts of black cotton soil, and the area under cotton is large.

Udamalpet Town.—Head-quarters of the *tāluk* of the same name in Coimbatore District, Madras, situated in 10° 36′ N. and 77° 15′ E. Population (1901), 10,503, of whom about one-eighth are Muhammadans. It is an important centre of trade in cotton, grain, and cloth; and its chief inhabitants belong to commercial classes, such as Komatis, Nāttukottai Chettis, and Muhammadans. Its blacksmiths are well-known for their skill. A District Munsif is stationed here.

Udayagiri Tāluk (1).—Northernmost Agency *tāluk* of Ganjām District, Madras, lying between 19° 50′ and 20° 23′ N. and 84° 13′ and 84° 39′ E., with an area of 504 square miles. It is a wild tract, largely covered with hill and jungle and intersected by rapid torrents. The population, consisting mostly of Khonds, was 76,858 in 1901, compared with 73,384 in 1891. They live in 401 villages. The *tāluk* consists of the Goomsur Māliahs and the Koradā and Ronabā estates, the head-quarters being at Goomsur-Udayagiri. The Ronabā chief pays nothing to Government; the Koradā chief pays Rs. 15 yearly. In the Goomsur Māliahs, the Government derives revenue only from the Chokkapād *khandam*, managed as a *ryotwāri* area, which yielded a land revenue of Rs. 2,500 in 1903-4. A special feature of Udayagiri is that a large extent has been permanently reclaimed from jungle and is cultivated with 'dry crops.' The Khonds who inhabit it are no longer able to depend on hunting or jungle produce for a living, and are much more liable to suffer from famine than those in Balligudā. They are, however, better educated.

Udayagiri Tāluk (2).—*Tāluk* of Nellore District, Madras, lying between 14° 35′ and 15° 7′ N. and 79° 5′ and 79° 38′ E., with an area, including *zamīndāri* villages, of 871 square miles, of which Government villages occupy 360 square miles. The population in 1901 was 95,173, compared with 100,227 in 1891. The *tāluk* contains 134 villages, the head-quarters being at UDAYAGIRI (population, 4,021). The demand on account of land revenue and cesses in 1903-4 amounted to Rs. 74,000. The extreme north and north-west of the *tāluk* are occupied entirely by the villages of the KĀLAHASTI ESTATE. The west is hilly; and the soil is stony and sterile towards the hills, becoming more fertile towards the east. The Manneru and its affluent the Pillaperu drain the north, and the Boggeru with its affluents the south.

The beds of these streams are low, and they afford no facilities for direct irrigation. It is in contemplation to restore the Gandipālem tank, a large reservoir fed by the Pillaperu. The chief sources of water-supply are wells, of which 1,942 are in repair. These are deep square pits excavated in stony strata, which cannot be depended upon in years of short rainfall. The 150 wells on the river banks afford better irrigation. The tanks, numbering 41, are rain-fed and afford but a precarious supply. The prohibitive cost of wells, and the absence of demand for the grains (*rāgi* and *cambu*) which are usually irrigated from them, prevent any appreciable increase in their number. Owing to the want of facilities for irrigation, the natural poverty of the soil, and the uncertain rainfall, the *tāluk* is subject to frequent scarcities, and emigration is common. The crops usually grown are *cambu*, castor, cotton, indigo, and *aruga* with the south-west monsoon; and rice, *cholam*, and *rāgi* with the north-east rains. Tobacco is raised by well-irrigation for local consumption.

Udayagiri Village.—Head-quarters of the *tāluk* of the same name in Nellore District, Madras, situated in 14° 53′ N. and 79° 18′ E. Population (1901), 4,021. It was formerly a place of importance. The walls which once encircled the town have almost entirely disappeared, but much of the fortifications on the neighbouring hill to the west still remains. The fort originally consisted of thirteen separate strongholds, eight on the hill and five below. Inside the walls are the remains of tombs, temples, and palaces. Part of the hill is so precipitous as to be inaccessible, the cliffs being in places nearly 1,000 feet high, and every path up was commanded by lines of defences. Tradition states that in the fourteenth century it was the capital of a kingdom founded by Lāngūla Gajapati. It fell into the hands of Krishna Deva of Vijayanagar in 1512. Afterwards it was nominally under the Golconda dynasty, but was held by semi-independent chiefs. On the top of the hill is a mosque, in which are two Persian inscriptions referring to its construction in 1660 by Shaikh Husain in the reign of Sultān Abdullah of Golconda, and to the planting of a garden near by. The *jāgīr* of Udayagiri was granted by the Nawābs of Arcot to a certain Mustafa Alī Khān. The last of his descendants was deported to Chingleput in 1839 for treasonable conduct, and the *jāgīr* was resumed. The village is supplied with fresh water by an open channel from the springs on the hill. It contains hospitals and schools maintained by the local board and the American Baptist Mission.

Udayagiri.—Ancient site in the Bhīlsa district of Gwalior State, Central India, situated in 23° 32′ N. and 77° 46′ E., between the Betwā and the Besh rivers, 4 miles from Bhīlsa, on the Midland section of the Great Indian Peninsula Railway. The place is important on account of the interesting rock-cut temples excavated in an isolated sand-

stone hill, and the numerous Buddhist remains in the neighbourhood. The hill lies from north-west to south-east, and is about three-quarters of a mile long, rising to a height of 350 feet above the plain. Some of the numerous caves contain records, dated and undated, of considerable historical importance. The finest in the series are those numbered 3, 4, 9, and 10 in the Survey Report quoted below.

The third cave, which measures about 14 feet by 12 feet, has a finely ornamented doorway, and formerly possessed a structural portico; in a small adjoining room behind the portico is a representation of the Ashtamātri or 'eight female energies.' Cave No. 4 is remarkable for a colossal representation of the Varāha Avatār, the third incarnation of Vishnu, in which he is, as usual, represented raising the earth out of the engulfing waters. The descent of the Ganges and the Jumna are also depicted here. The best cave is perhaps the ninth, measuring 22 feet by 19 feet, with a roof supported by four massive pillars with richly carved capitals. The remains of a fine portico stand before it. The only Jain cave on the hill (No. 10) is dedicated to the twenty-third Tīrthankar, Pārasnāth. The main excavation, which is 50 feet by 16 feet, is divided into five compartments, the southernmost room being again subdivided into three. Numerous Buddhist relics have been found, both on the hill and in the country round it, including a monolithic pillar, a lion capital, a large stone trough, and other smaller remains. The records are interesting, as giving the date of the conquest of Mālwā and Gujarāt by Chandra Gupta II of Magadha. Of the other records, one in the Jain cave is dated in A.D. 425–6 and another in 1037.

[A. Cunningham, *Archaeological Survey Reports*, vol. x, p. 46; *Corpus Inscriptionum Indicarum*, vol. iii, pp. 21, 34, and 259; *Indian Antiquary*, vol. xviii, p. 185; vol. xiv, p. 61.]

Udayagiri Hill ('Sunrise hill') (1).—One of the peaks of the Assia range in the Jājpur subdivision of Cuttack District, Bengal, situated in 20° 39′ N. and 86° 15′ E., so called from its being the most easterly of the hills in that District. The hill is in the form of an amphitheatre, and in the centre are some Buddhist remains. Here stood a temple consisting of three parts: a sanctuary containing a colossal image of Buddha in a sitting and meditative posture, a porch now in ruins, and a brick wall encircling the temple with a gate facing the east. The image, which is now buried up to the breast, seems with the pedestal to be about 10 feet high. North of the temple are two well-carved images of Bodhisattva, and farther north two more images of Bodhisattva have recently been found. To the west of the temple is a well; and at the entrance to the amphitheatre is a large image of the two-handed Padmapānī Bodhisattva, cut out of a single gneiss slab standing on a pedestal, in all about 8 feet high.

Udayagiri Hill (2).—Sandstone hill in the Khurdā subdivision of Purī District, Bengal, situated in 20° 16′ N. and 85° 47′ E. *See* KHANDGIRI.

Udayamperūr (or Diamper).—Town in the Vaikam *tāluk* of Travancore State, Madras, situated in 9° 55′ N. and 76° 25′ E. Population (1901), 5,327. Alexis de Menezes held here the famous synod of Diamper in 1599, a most important event in the history of the Syrian Church in Malabar.

Udayapur.—Village in the Bhīlsa district of Gwalior State, Central India, situated in 23° 54′ N. and 78° 4′ E., 4 miles by road from Bareth station on the Midland section of the Great Indian Peninsula Railway. Population (1901), 928. Numerous traces of its importance in Hindu times are scattered round, but those now prominent are chiefly Muhammadan. The old market square has colonnaded sides, and the fort wall is pierced by several gates, some Hindu and some Muhammadan. Half a mile south is a rocky hill, on which are the remains of an old wall built of uncemented stone blocks, which must once have enclosed a place of great strength. Of the three old temples still standing in the village, the great fane of Udayesvara is the only one of special interest. Built of a fine red sandstone and standing on a lofty platform crowned by a fine spire, its proportions are so admirable that it has no appearance of clumsiness. It is profusely adorned with sculpture, while the pillars which support the roof, though massive, are of great beauty. The seven smaller temples, which once surrounded the central shrine, are now in ruins, one having been removed to make way for a mosque. Tradition assigns the temple to Udayāditya Paramāra, and a long inscription, of which half has been lost, gives a list of the princes of this dynasty up to Udayāditya. The mosque was built in the time of Muhammad Tughlak II, as an inscription of 1336 shows. Numerous records have been found in this temple. One states that Udayāditya was ruling in 1080. Two are especially interesting, as showing that this district of Mālwā was held by the Chālukya kings of Anhilvāda Patan from 1163 to 1175. Other records refer to Devapāla of Dhār (1129).

[*Epigraphia Indica*, vol. i, p. 222; *Indian Antiquary*, vol. xviii, p. 341; vol. xx, p. 83.]

Udgīr Tāluk.—*Tāluk* in Bīdar District, Hyderābād State. The population in 1901, including *jāgīrs*, was 101,228, and the area was 681 square miles. In 1891 the population was 121,467, the decrease being due to the famine of 1899–1900. The *tāluk* contains one town, UDGĪR (population, 5,984), the head-quarters; and 207 villages, of which 54 are *jāgīr*. The land revenue in 1901 was 3·1 lakhs. The soils are chiefly *regar* or black cotton soil and some laterite. In 1905 some villages were transferred to the Deglūr *tāluk* of Nānder District, while

other villages were added from Varvāl-Rājūra. The *jāgīr tāluk* of Mirag with a population of 21,734, containing 45 villages, lies between this and the Bīdar *tāluk*.

Udgīr Town.—Head-quarters of the *tāluk* of the same name in Bīdar District, Hyderābād State, situated in 18° 24′ N. and 77° 7′ E. Population (1901), 5,984. The fort belonged to the Bijāpur kings, and was besieged by Shāh Jahān's general in 1635, and surrendered to him. In 1760 a great battle was fought here between the Nizām and the Marāthās. Nizām Salābat Jang and his brother occupied Udgīr with 7,000 cavalry, but were surrounded by 60,000 Marāthās. Desperate fighting continued for days, and the Nizām was forced to agree to the terms of peace imposed by the Marāthās. The fort was built about 1493, and has a ditch all round. Two palaces are situated inside, and two outside, but all are in ruins.

Udhuā Nullah.—Village and stream in the District of the Santāl Parganas, Bengal, situated in 24° 0′ N. and 87° 50′ E. It was the site of the defeat of the army of the Nawāb Mīr Kāsim by Major Adams in 1763.

Udipi Tāluk.—*Tāluk* in South Kanara District, Madras, lying between 13° 7′ and 13° 38′ N. and 74° 42′ and 75° 9′ E., with an area of 719 square miles. It contains one town, UDIPI (population, 8,041), the head-quarters; and 157 villages. The population in 1901 was 251,831, compared with 242,439 in 1891, showing an increase of 3·9 per cent. The demand for land revenue and cesses in 1903–4 amounted to Rs. 4,41,000. Rice and coco-nuts are the principal products, as in the rest of the District. There are some fine areca gardens in the vicinity of the Western Ghāts on its eastern boundary. The *tāluk* as a whole is exceedingly prosperous, the coast tract being exceptionally fertile. Coco-nut gardens fringing the backwaters and tidal reaches of the rivers are a feature of the country.

Udipi Town.—Head-quarters of the *tāluk* of the same name in South Kanara District, Madras, situated in 13° 21′ N. and 74° 45′ E. Population (1901), 8,041. The Krishna temple here, said to have been founded by Madhvāchāryā, the great Vaishnav reformer, in the thirteenth century, is largely resorted to by pilgrims. There are also eight ancient *maths* (religious houses), and each of the heads of these presides in turn over the Krishna temple for two years. The most important festival is the Pariyāya, celebrated at the change of these incumbents in January of every second year.

Ughi.—Head-quarters of the Hazāra border military police, North-West Frontier Province. *See* OGHI.

Ujhānī.—Town in the District and *tahsīl* of Budaun, United Provinces, situated in 28° 1′ N. and 79° 1′ E., on the Rohilkhand and Kumaun Railway, 8 miles west of Budaun town. Population (1901),

7,917. According to tradition, it was originally called Pipariā, from the number of *pīpal* trees here, and the name was changed by Mahipāl of Ujjain. Under the Rohillas it became the residence of Abdullah Khān, second son of Alī Muhammad, who died here of snake-bite. Shortly after British rule commenced, a revolt was raised at Ujhānī over the collection of revenue. The town, though chiefly built of mud, has a flourishing appearance, and the main streets are paved. The mosque and unfinished tomb of Abdullah Khān are the principal buildings. The American Methodist Mission has a branch here. Ujhānī has been a municipality since 1884. During the ten years ending 1901 the income and expenditure averaged Rs. 5,000. In 1903-4 the income was Rs. 7,000, of which Rs. 3,000 came from a tax on circumstances and property; and the expenditure was Rs. 7,000. There is a small export trade in *ghī*, sugar, and grain; and sugar-refining is the chief industry. Indigo was formerly manufactured largely, but the trade has declined. The municipality manages two schools and aids two others, attended by 328 pupils.

Ujjain Zila.—District in the Mālwā division of the Gwalior State, Central India, lying between 22° 47′ and 23° 36′ N. and 75° 10′ and 76° 3′ E., with an area of 1,505 square miles. The population in 1901 was 209,670, giving a density of 139 persons per square mile. The district contains three towns, UJJAIN (population, 39,892), the head-quarters, BARNAGAR (10,856), and KHĀCHROD (9,186); and 667 villages. It lies in a tract of high fertility drained by the Chambal and Siprā and many minor streams, and produces much poppy, as well as the ordinary grains. The district is divided into three *parganas*, of which the three towns mentioned above are the head-quarters. The land revenue is Rs. 9,86,000.

Ujjain Town.—Town in the State of Gwalior, Central India, situated in the centre of Mālwā, of which it is the traditional capital, in 23° 11′ N. and 75° 47′ E., on the Ujjain-Bhopāl Railway.

Ujjain, which has always been renowned among Hindus for its sanctity, stands on the right bank of the sacred river Siprā, and is rectangular in shape, covering an area of over 2 square miles. It was formerly surrounded by a wall, built in the fifteenth century, of which, however, only portions now remain. The old city, which appears to have been destroyed either by earthquake or by an unusual flood on the river, was situated 2 miles north of the present town. On its site the traces of old foundations are still visible, and numerous antique jewels, beads, seals, ornaments, and copper coins are found during the rains. Population has risen from 34,691 in 1891 to 39,892 in 1901. Hindus number 27,639, or 69 per cent.; Musalmāns, 10,539, or 26 per cent.; and Jains, 1,259, or 3 per cent. The city is divided into numerous wards. Among them may be noticed Jayapura, named after

Sawai Jai Singh of Jaipur, who, when governor of Mālwā, erected an observatory in this part of the city, of which the remains are still standing. The Bohrā Bākhal consists of three wards inhabited by the Bohrā trading community, whose members are Shiahs, and include the principal merchants of the city. The ward known as the Kot or fort occupies the elevated ground to the north of the town, which is said in former days to have lain outside the old city in the great Mahākālban or forest of Mahākāl. Here stands the temple of Mahākāl, on the site of the famous structure destroyed by the iconoclast Altamsh in 1235. Near it is a palace formerly the residence of Daulat Rao Sindhia. The remaining wards are, as a rule, called after the classes which inhabit them. Many of the houses are adorned with fine carved balconies and fronts; but few are of any size, and the town has a general air of decline, in spite of its increasing population. A large market is held every Wednesday for commercial purposes. Three times a year a religious fair takes place at the Sivarātri, in the month of Māgh (February), and on the full moons of Baisākh (May) and Kārtik (November). Besides these yearly meetings, a great religious gathering called the Sinhast fair is held once in twelve years.

Ujjain is one of the seven sacred cities of India, not yielding even to Benares in sanctity. Orthodox Hindus believe that it has existed from time immemorial; and according to the Tantras, it is the *pīthasthāna* at which the elbow of Satī fell, on the dismemberment of her body by Siva. It is also the first meridian of longitude of the Hindu geographers. In early days Ujjain was known as Avantī, and the surrounding country as Avantidesh. This name was certainly in use as late as the second century, and even occurs in an inscription of the tenth, while it is still employed by Brāhmans in devotional exercises.

The early history of the place is lost in the mists of antiquity, but it appears to have soon become a place of importance under the Aryan tribes who settled in Mālwā. In Buddhist literature, the kingdom of Avantī is described as one of the four great powers of India, while a romantic legend is related of the elopement and marriage of Vasuladatta, daughter of king Pajjota of Ujeni, with king Udena of the neighbouring realm of Kausāmbhī. At Ujjain there was at one time a Buddhist monastery known as the Southern Mount, while it was the birthplace of Kachāna, one of Sākyamuni's greatest disciples. Ujjain was the central mart for all produce entering from the western coast, and at the same time the principal stage on the route from the Deccan to Srāvastī, then the capital of the great kingdom of Kosala.

The first historical mention of Ujjain is on the rise of the Mauryan empire, when Asoka, afterwards emperor and the greatest upholder of Buddhism, was sent to Ujjain as viceroy of the western provinces. Nothing is again heard of Ujjain till the second century A.D., when

it became the capital of the Western Kshatrapa dominions under Chāshtana. It was at this time known to the classical writers, as Ptolemy (A. D. 150) mentions Chāshtana as Tiastenos of Ozene, while in the *Periplus* of the Erythrean Sea, written a century later, Ozene is noted as a trading centre whence onyx stones, porcelain, fine muslins, mallow-coloured muslins, and no small quantities of ordinary cottons, as well as spikenard, costus, and bdellium, were exported through the port of Barugaza or Broach near Surat. For close on three centuries it remained in the hands of the Kshatrapas, till about 400, when it passed to Chandra Gupta II of Magadha. The Gupta occupation is of special interest, as there are some grounds for believing that the expulsion of the unorthodox foreign Kshatrapas and the contemporary revival of Brāhmanism gave rise to the well-known tradition of Vikramājīt of Ujjain, the King Arthur of India, at whose court the 'nine gems,' the brightest geniuses of India, are supposed to have flourished.

In the seventh century, Ujjain was included in the empire of Harshavardhana of Kanauj. After his death in 648, a period of revolution and unrest obtained till the rise of the Rājput clans in the ninth century, when Ujjain fell to the Paramāras. From the ninth to the twelfth century the Paramāras became so identified with Ujjain that subsequent tradition has converted Vikramāditya of Ujjain into a Paramāra. During this period Ujjain suffered the usual fate of cities in those days, and was continually sacked by the neighbouring chiefs, the Chālukyas of Gujarāt, the Kalachuris of Chedi, the Chandels of Bundelkhand, the Rāshtrakūtas of Mālkhed, and other Rājput clans. On the decline of the Paramāra power in the end of the eleventh century, the place appears to have fallen temporarily to the Tonwars and Chauhāns. In 1235 Altamsh, who had just taken Bhīlsa, marched on Ujjain and sacked it, destroying all the temples, and among them the renowned shrine of Mahākāl, famous wherever the Hindu religion existed, taking away the *lingam* to Delhi.

From this time Ujjain remained a Muhammadan possession till the eighteenth century. From 1401 to 1531 it was included in the kingdom of Mālwā, but, not being the capital, was of no especial importance. In 1562 it fell to Akbar, and became the chief town of the *Sūbah* of Mālwā. In 1658 took place the battle near Ujjain, in which Aurangzeb and Murād defeated Jaswant Singh of Jodhpur, who was fighting on behalf of prince Dārā. The actual scene of the battle is Dharmatpur, renamed Fatehābād by Aurangzeb after the victory, and now a station on the Rājputāna-Mālwā Railway. The cenotaph of Rājā Ratan Singh of Ratlām, who fell in the fight, still stands on the field of battle. In 1733, during the reign of Muhammad Shāh, Mahārājā Sawai Jai Singh of Jaipur was made governor of Mālwā. In 1743 Bājī Rao Peshwā became deputy-governor, and Ujjain finally passed to Sindhia about

1750. Until 1810, when Daulat Rao Sindhia founded his new capital of Lashkar, Ujjain was the chief town of his dominions. In 1799 it was sacked by Jaswant Rao Holkar.

The town is managed by a municipality, established in 1898. The municipal income amounts to Rs. 18,000 per annum, derived mainly from octroi. A water-supply scheme has been completed. Ujjain is the head-quarters of the *Sar Sūbah* of the Mālwā *prānt*, and contains two State hospitals, a dispensary belonging to the Canadian Presbyterian Mission, who have a station in the town, the Mādhav College teaching up to the university entrance standard, and seven schools for boys and one for girls. Numerous private institutions for teaching Sanskrit and the vernaculars are situated in the town.

As already stated, Ujjain was a celebrated mart early in the Christian era. Its commercial importance declined at the beginning of the nineteenth century, owing to the establishment of Lashkar as the capital of the Gwalior State and the rise in importance of Indore, but was revived between 1880 and 1897 by the opening of the Ujjain-Ratlām-Godhra branch of the Bombay, Baroda, and Central India Railway, the Ajmer-Khandwā branch of the Rājputāna-Mālwā Railway, and the Ujjain-Bhopāl Railway. A considerable trade is now carried on, mainly with Bombay, in cotton, grain, and opium. One of the Government dépôts at which duty is paid upon the last commodity has been established here.

Ujjini.—Village on the southern frontier of the Kūdligi *tāluk* of Bellary District, Madras, situated in 14° 43′ N. and 76° 18′ E. Population (1901), 2,975. The place is held in great reverence by Lingāyats, as it is the seat of one of the five Simhāsanaswāmits, or religious heads of the sect. The *math* of this *gurū* is the most notable building in the village, and contains within its walls a temple to Siddheswaraswāmi. A carved lotus on the ceiling of one of the compartments of the *mantapam* in front of the shrine is famous in this part of the country. The tower over the shrine itself is so blackened with the many oily oblations which have been poured over it that the ornament on it is almost obliterated.

Ula.—Town in Nadiā District, Bengal. *See* BĪRNAGAR.

Ullāl.—Village in the Mangalore *tāluk* of South Kanara District, Madras, situated in 12° 50′ N. and 74° 51′ E., on the south bank of the Netravāti river opposite to Mangalore town. It was once the seat of a Jain family of some local importance in the sixteenth and seventeenth centuries. The Italian traveller Della Valle (1623) mentions the queen of Olaya. With the exception of a ruined temple at Somnāth, about a mile to the south, which contains sculptures of peculiar design, hardly a trace is now left of the former importance of the place. It is at present a straggling bazar with some trade, but depending for its

prosperity mainly on the transport of passengers and goods to and from Mangalore and elsewhere, an occupation which gives employment to a large number of Māppilla boatmen. The population in 1901 was 6,181.

Ulubāria Subdivision.—Southern subdivision of Howrah District, Bengal, lying between 22° 13′ and 22° 47′ N. and 87° 51′ and 88° 12′ E., with an area of 337 square miles. The subdivision is a low-lying alluvial tract, watered by the Hooghly, Rūpnārāyan, and Dāmodar. The population in 1901 was 419,257, compared with 397,329 in 1891, the density being 1,244 persons per square mile. It contains one town, ULUBĀRIA (population, 5,395), the head-quarters; and 1,085 villages.

Ulubāria Town.—Head-quarters of the subdivision of the same name, Howrah District, Bengal, situated in 22° 28′ N. and 88° 7′ E., on the right bank of the Hooghly, 15 miles south of Howrah. Population (1901), 5,395. Ulubāria is the starting-place of the MIDNAPORE CANAL, and a station on the Bengal-Nāgpur Railway. The road to Midnapore and Orissa crosses the Hooghly at this point by a ferry. Daily services of steamers run from Calcutta to Ulubāria, and also via Ulubāria to Ghātāl. A large weekly cattle market is held here. Ulubāria was constituted a municipality in 1903. In 1903-4 the income was Rs. 3,000, of which Rs. 2,000 was derived from a tax on persons (or property tax); and the expenditure was Rs. 2,600. The town contains the usual public offices; the sub-jail has accommodation for 10 prisoners. In 1687 Job Charnock settled at Ulubāria for a short time before laying the foundation of Calcutta.

Ulvi.—Village in the Haliyāl *tāluka* of North Kanara District, Bombay, situated in 15° N. and 74° 30′ E. Population (1901), 191. It contains a Lingāyat shrine in honour of Basava, the founder of the Lingāyat religion, who died at Ulvi in 1150. There are some temples of great antiquity. The Budbud Tale or 'bubble well' is another object of interest, and is held in much reverence. A religious fair is held annually, at which nearly 5,000 pilgrims assemble. Since 1878 the provisions of the municipal law have been applied during the period for which the fair is held.

Ulwar.—State and capital thereof in Rājputāna. *See* ALWAR.

Umari.—Petty State in MAHĪ KĀNTHA, Bombay.

Umariā.—Town in the Rewah State, Central India, and centre of a coal-field, situated in 23° 32′ N. and 80° 53′ E., on the Katnī-Bilāspur branch of the Bengal-Nāgpur Railway; 1,500 feet above the sea. Population (1901), 5,381. The town came into existence on the opening of the mines in 1881. The coal-fields are situated in the upper and lower Barākar divisions of the Gondwānas. The former rock consists of variegated clays, the latter of sandstones and shales, through which

the coal seams run. The field has a dip of 1 in 16, towards the north-east on its western side, towards the north-west on the eastern border, and northwards in the centre. The seams at places reach a thickness of 31 feet. Borings show that the area occupied by the coal is very extensive, the proved area being estimated to contain 24 million tons. The coal is, except in a few places, of a dull laminated variety much impregnated with fossilized resins. It does not coke well, and gives a white ash, forming little or no clinker. The coal is worked through both pits and inclines by the pillar and stall method, the pillars being destroyed on reaching the coal boundary. The gallery roofs are supported with logs of *sāl* from the State forests. Eight seams have been opened, of which two are now worked. The output is regulated by the demand; but the mine could, if required, supply 1,000 tons a day, though the actual maximum output in any one day has been 890 tons. Between 1883 and 1903, 1·9 million tons were extracted. The Great Indian Peninsula Railway Company takes 70 per cent. of the output. The mine was worked by the State from 1881 to 1885, when it was taken over by the Government of India. In 1900 it was replaced under the Darbār. The workers include 312 Musalmāns, 295 Kols, and 102 Gonds, the rest belonging to various classes. The average number of workers is: above ground, 224 men and 6 women; below ground, 1,258 men and 235 women; total, 1,723. A hewer earns about 5 annas a day, a tram-pusher 3 annas, and mates Rs. 12 to Rs. 25 a month. Accidents have been very few, but a hospital is maintained in connexion with the colliery. The European managing staff consists of a superintendent and manager, a deputy-manager and surveyor, an overman, and an underlooker, all of English experience, with other locally trained subordinates. A post and telegraph office is maintained in the town.

[*Economic Geology of India* (1905); *Records, Geological Survey of India*, vol. xxxii, pt. i (1906).]

Umarkot Tāluka.—*Tāluka* of Thar and Pārkar District, Sind, Bombay, lying between 24° 49′ and 25° 45′ N. and 69° 30′ and 70° 13′ E., with an area of 1,461 square miles. The population in 1901 was 49,118, compared with 43,128 in 1891. The *tāluka* contains one town, UMARKOT (population, 4,924), the head-quarters; and 110 villages. The density, 34 persons per square mile, slightly exceeds the District average. The chief crop is *bājra*. Land revenue and cesses in 1903–4 amounted to 1·6 lakhs. Half of the *tāluka* is in the Thar and depends on rain for its cultivation, and the other half is irrigated by the Thar Wah Canal.

Umarkot Town.—Head-quarters of Thar and Pārkar District, Sind, Bombay, situated in 25° 21′ N. and 69° 46′ E. It stands on the confines of the sandhills forming the eastern desert; and a canal, known as the

Umarkot branch, leading out from the Nāra, now reaches the town, tailing off into a large tank. Population (1901), 4,924. Umarkot has direct communication with Chor station on the North-Western Railway by a good road, 7 miles long. The town contains a fort, about 500 feet square, the usual garrison of which, when in the possession of the Tālpur Mīrs, was 400 men. It is reported to be nearly 700 years old, and forms a stately centre to the town. At present, the principal Government buildings are situated within this stronghold. The chief employments of the inhabitants are agriculture and cattle-breeding. The Hindus devote their attention also to trade, several of the Umarkot merchants being wealthy men. There is a local trade in grain, *ghī*, camels, cattle, and tobacco, while the transit trade is concerned with cotton, metals, dyes, dried fruits, *ghī*, grain, oil, piece-goods, wool, and tobacco. The manufactures are confined to the making of coarse cloths. The town of Umarkot is said to have been founded by one Umar, a chief of the Sūmra tribe, but at what date is not known. Its historical importance is due to its position on the main route from Hindustān to Sind. Here, in October, 1542, was born Akbar, the son of Humāyūn, the exiled Mughal emperor, then on his flight to Afghānistān. The presumed spot of Akbar's birth is marked by a stone slab, with an inscription. It was through this town that Akbar, when emperor, marched in 1591 to conquer Sind. In 1813 Umarkot was captured by the Tālpur Mīrs from the Rājā of Jodhpur, in whose possession it had been for some time; and after their downfall in 1843 it passed to the British. Rāna Ratān Singh, one of the most troublesome of the Soda chiefs, was executed here in the early days of British rule. The temple of Mahādeo, 3 miles north-east of Umarkot, is visited by large numbers of Hindus. The municipality, established in 1860, had an average income during the decade ending 1901 of Rs. 14,000. In 1903–4 the income was also Rs. 14,000. The town contains a dispensary and two primary schools, one for boys with 180 pupils and the other for girls with 102. To the former is attached a technical school which teaches carpentry and smith's work.

Umballa.—District, *tahsīl*, and town in the Delhi Division, Punjab. *See* AMBĀLA.

Umbeyla.—Mountain pass in Buner, North-West Frontier Province. *See* AMBELA.

Umeta.—Petty State in REWĀ KĀNTHA, Bombay.

Umiām.—River of Assam, which rises in the Khāsi Hills, a little to the north of Maoflang, and flows along a deep and precipitous gorge near the station of Shillong. At Barpāni it is spanned by a fine iron bridge on the cart-road between Shillong and Gauhāti, and from that point it flows north-east towards the Jaintiā Hills. For some distance it forms the boundary between the Khāsi and the Jaintiā Hills, and

finally falls into the Kapili in Nowgong District, where it is known as the Kiling river, after a course of 81 miles.

Ummattūr.—Village in the Chāmrājnagar *tāluk* of Mysore District, Mysore, situated in 12° 4′ N. and 76° 54′ E., 15 miles south-east of Nanjangūd railway station. Population (1901), 2,081. The Rājās of Ummattūr were among the most powerful chiefs in the south of Mysore. They had a fort on the island of Sivasamudram, where was the temple of their family god, and they also held parts of the Nīlgiris. At the beginning of the sixteenth century Ganga Rājā assumed independence and acquired Bangalore District and other tracts, the whole being called the Sivasamudram country; and he even claimed Penukonda. He was put down by Krishna Rāya of Vijayanagar about 1510. The Ummattūr rulers were the earliest rivals of the Rājās of Mysore, and on one occasion by a treacherous massacre nearly exterminated the Kalale chiefs, who were allies of the latter. One infant, however, escaped, and grew up to restore the fortunes of his family, and the Kalale chiefs became the hereditary Dalavāyis of the Mysore State. The Vijayanagar viceroy at Seringapatam was disposed to make over his authority to the Ummattūr chief, who was in some way related to him; but the Mysore Rājā secured it in 1610, and in 1613 took Ummattūr and annexed its possessions to Mysore. It is now one of the endowments of the Chāmarājesvara temple at Chāmrājnagar.

Umrāwatī.—District, *taluk*, and town in Berār. *See* AMRAOTĪ.

Umrer Tahsīl.—Southern *tahsīl* of Nāgpur District, Central Provinces, lying between 20° 35′ and 21° 11′ N. and 78° 56′ and 79° 40′ E., with an area of 1,040 square miles. The population in 1901 was 136,476, compared with 149,350 in 1891. The density is 131 persons per square mile. The *tahsīl* contains one town, UMRER (population, 15,943), the head-quarters; and 457 inhabited villages. Excluding 74 square miles of Government forest, 71 per cent. of the available area is occupied for cultivation. The cultivated area in 1903–4 was 564 square miles. The demand for land revenue in the same year was Rs. 2,41,000, and for cesses Rs. 22,000. The *tahsīl* contains a large area of wheat-growing land broken by low ranges of isolated hills. It has a heavier rainfall than Nāgpur, and rice is grown towards the eastern border.

Umrer Town.—Head-quarters of the *tahsīl* of the same name in Nāgpur District, Central Provinces, situated in 20° 52′ N. and 79° 20′ E., 29 miles south-east of Nāgpur city on the metalled road to Mūl in Chānda. Population (1901), 15,943. Umrer is the eleventh town in the Province in size. It contains a Marāthā fort and an old temple inside it with walls 17 feet thick, which is supposed to have been built by Rājā Kārn Sāh of Chānda in the sixteenth century. Umrer was created a municipality in 1867. The municipal receipts during the decade ending 1901 averaged Rs. 17,400. In 1903–4 the income was

Rs. 24,000, principally derived from octroi. The staple industry of Umrer is the weaving of cotton cloths with silk borders by hand. White loin-cloths with red borders are generally woven, the thread being dyed with lac. About 10,000 persons are dependent on the industry. Umrer possesses English middle, girls', and private Urdū schools, and a dispensary. A small weekly cattle market is held.

Umreth.—Town in the Anand *tāluka* of Kaira District, Bombay, situated in 22° 42′ N. and 73° 7′ E., on the Godhra branch of the Bombay, Baroda, and Central India Railway, 14 miles north-east of Anand and 5 miles south-by-west of Dākor. Population (1901), 15,549. It is one of the most populous and wealthy towns in the District. Near the town is a step-well estimated to be nearly five hundred years old. It has five storeys and 109 steps, and is ascribed to Sidhrāj, king of Anhilvāda. The municipality was established in 1889. The income during the decade ending 1901 averaged Rs. 12,000. In 1903-4 the income was Rs. 14,000. The town has a cotton-ginning factory, a Sub-Judge's court, a dispensary, and 2 English middle schools with 195 pupils. It also contains 5 vernacular schools, 4 for boys and one for girls, attended by 458 and 110 pupils respectively.

Umrī.—Petty chiefship in the Central India Agency, under the Resident at Gwalior, with an area of about 60 square miles, and a population (1901) of 2,469. The chiefs of Umrī and BHADAURĀ are Sesodia Rājputs of the Sāgarāvat branch, being descended from a younger son of Rājā Udai Singh (1537–72), the founder of Udaipur, called Sāgarjī, who, with Akbar's assistance, managed for a time to seize the rule of Mewār from his brother. Pratāp Singh, fifth in descent from Sāgarjī, contrived in 1636, with the support of the Nawāb of Nāhargarh, a Rāthor Rājput who had turned Muhammadan, to seize Umrī, then in the possession of Thākur Pahlād Singh, a Tagara Rājput. Pratāp's daughter was married to Rājā Rām Singh of Kotah, who was killed at the battle of Jājau in 1707. Pratāp's son Himmat, who was in the service of the Kotah State, had three sons, of whom Jagat Singh received Bhadaurā and other villages, Jai Singh received villages now included in Bhadaurā and Umrī, and Khiaoda Man received certain villages, some of which form the Khiaoda estate. (*See* table, GWALIOR RESIDENCY.) In the Marāthā period these estates lost much territory. The present ruler is Pirthī Singh, who succeeded in 1882, and bears the hereditary title of Rājā.

The tract in which the State is situated is somewhat broken up by small hills, but the soil in the valleys is fertile, and the people are well-to-do. The total revenue is Rs. 6,000, the cost of administration being Rs. 3,500. Till 1897 the revenue was paid in the *Phūl shāhi* coinage struck at Rāghugarh, Shādora, and Chanderī; but it is now collected in British rupees.

Umrī, the chief place, is situated in 24° 45′ N. and 77° 19′ E. Population (1901), 581.

Umta.—Town in the Kherālu *tāluka* of the Kadi *prant*, Baroda State, situated in 23° 47′ N. and 72° 33′ E. Population (1901), 5,242. It possesses a vernacular school.

Umthru.—River in the Khāsi and Jaintiā Hills, Eastern Bengal and Assam. *See* DIGRU.

Un.—Old site in the Nimār district of Indore State, Central India, situated in 21° 49′ N. and 75° 28′ E. Population (1901), 1,256. The place, though formerly of some size, is now only a small village, its importance consisting in the old Jain temples which still stand there. These belong to the twelfth century, and one contains an inscription of one of the Paramāra kings of Dhār. Considerable damage was done to the temples by a Muhammadan contractor employed by Tukojī Rao Holkar II to build tanks, who used these buildings as a quarry. A State post office and a school are maintained in the village.

Una Tahsīl.—*Tahsīl* of Hoshiārpur District, Punjab, lying between 30° 59′ and 31° 52′ N. and 75° 56′ and 76° 38′ E., with an area of 717 square miles. It consists of the broad and stony valley of the Sohān between the inner and outer SIWĀLIK HILLS, which near the Beās rises into the Jaswān Dūn, a plateau or upland valley about 1,400 feet above sea-level. The Jandbārī *tāluka*, a small piece of territory on the left bank of the Sutlej, is also included in this *tahsīl*. The population in 1901 was 225,198, compared with 229,308 in 1891. It contains the towns of UNA (population, 4,746), the head-quarters, and ANANDPUR (5,028); and 523 villages. The land revenue and cesses in 1903–4 amounted to Rs. 3·2 lakhs.

Una Town.—Head-quarters of the *tahsīl* of the same name in Hoshiārpur District, Punjab, situated in 31° 28′ N. and 76° 17′ E., in the Jaswān Dūn. Population (1901), 4,746. It is important as the seat of a branch of the Bedi clan who trace their descent, through Kala Dhāri, from Nānak, the first Sikh Gurū; but it has no commercial importance. The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 2,700 and the expenditure Rs. 2,600. In 1902–3 the income was Rs. 3,800, chiefly derived from octroi; and the expenditure was Rs. 2,900. It maintains a vernacular middle school and a Government dispensary.

Una-Delvāda.—Twin towns in the State of Junāgarh, Kathiāwār, Bombay, situated in 20° 49′ N. and 71° 5′ E., on the bank of the Machundri river. The population of Una in 1901 was 6,628. The ancient town of Una was called in Sanskrit Unat Drug ('the lofty fortress'), and was situated close to the present town, which was then known under the name of Delvāda. Hence Una and Delvāda were almost synonymous. In former times Una-Delvāda was ruled by

Unevāl Brāhmans; but on their offering an affront to the bride of Vejal Vājo, the latter stormed the town and put many of the inhabitants to the sword. As Unat Drug had become defiled by the slaying of Brāhmans, the population moved into the adjacent town of Delvāda, which was hereafter called Una. Afterwards, when Una had fallen under Muhammadan rule, a new town was founded about 3 miles south of Una; and to this town the old name of Delvāda was given. Under the Sultāns of Gujarāt, Una and Delvāda were of much importance, from their proximity to the island fortress of Diu, from which Delvāda is about 4 miles and Una 7 miles distant.

Unābdev.—Place of interest in the Chopda *tāluka* of East Khāndesh District, Bombay, situated in 21° 16′ N. and 75° 29′ E., 3 miles north-west of Adāvad under the Sātpurā Hills. It is remarkable for a hot spring, whose waters, issuing from a seemingly solid block of masonry forming the lower part of a Hindu temple, flow through a stone conduit fashioned like a cow's head, and are collected in a pond 25 feet square surrounded by a strong red-brick wall. Within the enclosure, close to the edge of the pond, is a resthouse and two small Hindu shrines, and outside the enclosure the water is collected in a cattle trough.

Unao District (*Unnao*).—District in the Lucknow Division of the United Provinces, lying north-east of the Ganges, between 26° 8′ and 27° 2′ N. and 80° 4′ and 81° 3′ E., with an area of 1,792 square miles. It is bounded on the north by Hardoī; on the north-east by Lucknow and Rāe Barelī; on the south-east by Rāe Barelī; and on the south-west the Ganges divides it from Cawnpore and Fatehpur. The greater part of Unao forms a gently undulating upland, in which ridges of high and rather sandy land alternate with depressions of stiffer soil. The deeper depressions contain more or less permanent lakes, while in the shallower hollows swamps form during the rains. Large stretches of barren *ūsar* land are a conspicuous feature, sometimes extending for several miles. The valley of the Ganges is lower. It is widest in the north, where it extends several miles from the bed of the river, and gradually diminishes towards the south, where the Ganges runs close to its high bank. This is the principal river and skirts the whole of the south-western border. The Sai enters Unao from the north, and flows roughly parallel to the Ganges along or near the north-east boundary. A small stream called the Kalyāni drains the upper part of the Ganges valley; and another stream, the Lonī, rises in the centre of the District and flows south-east to Rāe Barelī. *Jhīls* and marshes are most numerous in the centre and east.

Physical aspects.

No geological formations are found except the ordinary alluvium, which contains *kankar* or nodular limestone.

The flora is that of the Gangetic plain generally. Unao is fairly well

wooded; but this is due to the large number of groves, chiefly of mango and *mahuā* (*Bassia latifolia*). There are few jungles, and these contain only grass or a few *dhāk*-trees (*Butea frondosa*). *Babūl* (*Acacia arabica*) is the only product of the *ūsar* plains.

Wolves, jackals, and wild hog are common, while *nīlgai* and antelope are still found in some numbers, and in the extreme south there are a few herds of wild cattle. Wild-fowl abound in the cold season. Fish are plentiful in the rivers and in the larger *jhīls*, and are used for food.

Unao is generally healthy, and the temperature varies from about 75° to 103° in the hot season and from 46° to 79° in the cold season. The climate thus resembles that of the neighbouring Districts of Southern Oudh.

The annual rainfall averages 35 inches, evenly distributed throughout the whole District; but great variations occur over a series of years. In 1880 less than 12 inches was received, while in 1867 the fall amounted to nearly 76 inches.

History.

Tradition connects various places in the District with episodes in the Rāmāyana, and attempts have been made to identify sites visited by the Chinese pilgrims. Nothing, however, is known of the history of Unao till the Muhammadan invasion. Legend relates that Saiyid Sālār passed through the District, and the tombs of some of his followers are pointed out. The traditions of the people state that the Rājputs first entered Unao between A.D. 1200 and 1450, retreating before the Musalmān conquerors. They found the eastern portion occupied by Bhārs, and the rest by low castes, now represented by the Lodhas, Ahīrs, &c. The earliest regular Musalmān settlement dates from the end of the thirteenth or the beginning of the fourteenth century, when a saint named Alā-ud-dīn came from Kanauj and cursed the Rājā of Nawal, who refused to admit him into the town. Nawal was destroyed with its inhabitants, and the Saiyid founded Bāngarmau a short distance away. The shrine built over his grave bears date 1302. In the fifteenth century Ibrāhīm Shāh of Jaunpur sent a force, which took Safīpur in 1425; and a few years later some Saiyids treacherously seized the stronghold of the Bisen Rājās of Unao. At this time the eastern portion of the District was included in the tract known as BAISWĀRĀ. Under Akbar, Unao formed part of the *sarkār* of Lucknow, but materials are lacking for the history of the District under the Mughals. In the eighteenth century a Bais chieftain successfully resisted Saādat Khān, Nawāb of Oudh; and a hundred years later Sleeman described the country as in a perpetual state of disturbance, where life, property, and industry were alike insecure.

At the annexation in 1856 a District of Purwā was formed, the headquarters being at Unao town. A year later the Mutiny broke out, and before the end of June the Deputy-Commissioner was obliged to retire

to Lucknow. A few of the *tālukdārs* were conspicuously loyal, furnishing supplies and information to the British, while others adopted a position of open rebellion, and some remained neutral. There was, however, no organized movement against the British, owing to the lack of leaders. In July Havelock left Cawnpore and fought several engagements, advancing beyond Unao on the road to Lucknow. He was, however, unable to maintain his position and retired. In August an advance again took place; but it was not till September 19, after the arrival of Outram, that the real advance to relieve Lucknow was made. After the occupation of the Alambāgh, communications through Unao to Cawnpore were not interrupted, and the north of the District was cleared of rebels by February, 1858. The south and east gave more trouble, and Baiswārā remained unsettled till November. In 1869 the District was enlarged by the addition of *parganas* transferred from Lucknow and Rāe Barelī, and assumed its present form.

Copper arrow-heads have been found near Pariar on the Ganges opposite Bithūr. The District contains many ancient mounds dating possibly from Buddhist times; but they have not been excavated. Nawal has been identified with the A-lo mentioned by Fa Hian and with the Na-po-ti-ku-lo or Navadevakula visited by Hiuen Tsiang. The oldest Muhammadan buildings are at BĀNGARMAU.

Population.

The District contains 10 towns and 1,633 villages. At the four enumerations the numbers were: (1869) 945,955, (1881) 899,069, (1891) 953,636, and (1901) 976,639. The decrease between 1869 and 1881 was due to the famine of 1877-8. There are four *tahsīls*—UNAO, SAFĪPUR, PURWĀ, and MOHĀN—the first three named from their head-quarters, but the head-quarters of Mohān are now at Hasanganj. The principal town is the municipality of UNAO. The following table gives the chief statistics of population in 1901:—

Tahsīl.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Unao	400	1	286	204,850	512	+ 6.2	8,207
Safīpur	408	3	360	225,490	552	+ 7.3	4,661
Purwā	548	3	513	290,910	531	− 0.8	10,939
Mohān	436	3	474	255,389	586	− 0.8	5,806
District total	1,792	10	1,633	976,639	545	+ 2.4	29,613

Nearly 92 per cent. of the total are Hindus and 8 per cent. Musalmāns. Between 1891 and 1901 a decrease of population took place in the north-east and east, while the population in the north-west and centre increased. The density is high; but Unao is not so congested as the

eastern Districts of Oudh. It still supplies recruits for the Indian army and for the police, besides considerable numbers of labourers to the neighbouring cities of Cawnpore and Lucknow. More than 98 per cent. of the population speak the Awadhī dialect of Eastern Hindī.

Brāhmans, 121,000, are the most numerous Hindu caste; while other important castes are Chamārs (tanners and cultivators), 103,000; Ahīrs (graziers and cultivators), 93,000; Lodhas (cultivators), 90,000; Pāsīs (toddy-drawers and cultivators), 89,000; Rājputs, 74,000; and Kāchhīs (cultivators), 32,000. Among Muhammadans are Shaikhs, 17,000; Pathāns, 14,000; and Behnās (cotton-carders), 9,000. More than 73 per cent. of the population are supported by agriculture. Rājputs hold 45 per cent. of the total area and Brāhmans 19 per cent. Brāhmans are cultivators of about 16 per cent. and Rājputs of 10 per cent. of the tenant land, while the skilful cultivating castes—the Kāchhīs, Kurmīs, and Lodhas—occupy about 20 per cent. between them.

There were 106 native Christians in 1901, of whom 59 were Methodists. A branch of the American Church was opened in 1882, subordinate to the Presiding Elder of Hardoī.

Agriculture.

Unao is a District of average, but not exceptional, fertility, as compared with the rest of Oudh. The Ganges valley is of the usual type. In places there are stretches of barren sand, but most of it is fairly productive in ordinary years. The autumn crop is frequently flooded; but in dry years the spring crop is excellent, and requires little attention. North-east of this, beyond the old high bank of the river, the soil is usually a rich loam, producing excellent *jowār* and *arhar*; and this is the most prosperous tract. Farther inland the loam turns to clay, in which rice is the principal crop. The land again becomes sandy near the Sai, and *bājra* here takes the place of *jowār*; but the valley of that river is generally fertile.

The tenures on which the land is held are those common to OUDH. About one-fifth of the total area is included in *talukdāri* estates, of which a small proportion is sub-settled. The main agricultural statistics for 1903-4 are given below, in square miles:—

Tahsil.	Total.	Cultivated.	Irrigated.	Cultivable waste.
Unao	400	215	77	63
Safīpur	408	259	99	57
Purwā	548	286	128	92
Mohān	436	262	118	59
Total	1,792	1,022	422	271

Barley, wheat, and gram are the staple food-crops, covering 220, 218, and 153 square miles respectively; while *arhar* (132), *bājra* (122), rice (119), *jowār* (89), and maize (65) are also largely grown. Other crops

are poppy (14) and sugar-cane (11); cotton and oilseeds are also grown to a small extent.

Cultivation has increased by about 20 per cent. within the last forty years, and a considerable portion of this increase has taken place recently. The increase is largely due to the breaking up of inferior land for rice; but there has also been a rise in the area under maize, cotton, and poppy. While the area under the plough has risen, there has also been a great extension in the area double cropped, which now amounts to nearly a quarter of the cultivated area. Gram or peas are largely sown in lands which have produced rice, after that crop has been gathered. There is a small, but steady, demand for advances under the Land Improvement and Agriculturists' Loans Acts. During the ten years ending 1900, a total of 1·8 lakhs was advanced, of which 1·5 lakhs was lent in the famine year 1896-7. In the next four years the average amount lent was Rs. 3,000.

The cattle are of an inferior type, as usual throughout Southern Oudh. An attempt was once made to improve the breed; but the bulls imported were not of a suitable stamp, and the best plough-cattle are still bought at the well-known fairs in the Provinces or from dealers. The ponies are also of a poor class, and are chiefly used as pack-animals. Sheep of the ordinary breed are kept in considerable numbers, and the District supplies the Cawnpore market.

In 1903-4 the irrigated area was 422 square miles, of which 224 were supplied from wells, 168 from tanks, and 30 from other sources. The Ganges and Sai valleys require little irrigation; but temporary wells can be made when required in most parts of these tracts. In the uplands, the north-east and east depend chiefly on *jhīls* and swamps, while wells are the principal source elsewhere. The rivers are used only to a small extent in ordinary years, owing to the cost of raising water. Wells are usually worked by a bullock-run, but water is also raised from them by hand. In the lowlands the lever can be used. The water of *jhīls* and swamps is raised by the swing-basket. The canal made by the kings of Oudh, which was intended to link the Ganges and Gumtī, has never been used for irrigation and is usually dry.

Kankar or nodular limestone is found in all parts of the District, and is used for making lime and metalling roads. Saline efflorescences called *reh* are collected for manufacturing glass and other purposes.

Trade and communications.

The manufactures of the District are of even smaller importance than usual. Indigo, salt, and saltpetre were formerly made; but these industries have collapsed, and the chief manufacture is that of brass and copper utensils at Bhagwantnagar, Nawalganj, and Murādābād. Cotton cloth is made for local consumption at several places, and there is a little calico-printing.

Unao exports grain, sugar, and *ghī*, and imports piece-goods, salt, metals, and spices; but the trade is not considerable. It lies between the two large cities of Cawnpore and Lucknow, which provide markets for surplus produce and supply the small needs of an agricultural population. The traffic by road is still considerable, especially to Cawnpore. There are no large trading centres in the District, their place being taken by small markets at numerous villages and a few towns.

The branch of the Oudh and Rohilkhand Railway from Cawnpore to Lucknow passes across the centre of the District, and side by side with it runs the narrow-gauge line which links the Rājputāna-Mālwā and the Bengal and North-Western Railways. Communications by road are fairly good. Out of a total length of 507 miles, 110 miles are metalled. The Public Works department is in charge of most of the former; but the cost of all but 30 miles is met from Local funds. Avenues of trees are maintained on 222 miles. The road from Cawnpore to Lucknow is the principal route, and the other metalled roads branch off from this at various points.

Famine.

Records of the early famines in Unao are scanty. There was scarcity or famine in 1769, 1783, and 1838, and again after the commencement of British rule in 1861, 1865, and 1869. The drought of 1877 was severely felt, and in March, 1878, as many as 44,000 persons were employed on relief works during a single week. Distress continued till the next autumn harvest ripened. A succession of wet years culminating in 1894 had already depressed the condition of the people, when the scantiness of rain in 1895 and the still more complete failure in the following year caused widespread distress. Relief works were opened in December, 1896, and the numbers employed rose rapidly, till at the end of February 49,000 workers were being relieved daily. The spring harvest gave temporary relief, but works were not closed till the end of August. Collections of land revenue were suspended to the extent of 7·8 lakhs, and 2 lakhs was ultimately remitted.

Administration.

The Deputy-Commissioner is usually assisted by four Deputy-Collectors recruited in India, and a *tahsīldār* resides at the head-quarters of each *tahsīl*. An officer of the Opium department is stationed in the District.

The civil courts include those of a Sub-Judge and three Munsifs. Unao is within the jurisdiction of the Civil and Sessions Judge of Hardoī. The District is marked by the prevalence of homicide; but crimes against property of a serious type are comparatively rare. The Rājputs are chiefly responsible for breaches of the peace, while the Pāsīs supply most of the criminal population. Female infanticide was formerly very common, but is no longer suspected.

At annexation in 1856 a summary settlement was made, the records of which perished in the Mutiny. After the restoration of order a second summary settlement was carried out, based on the demand under the native government, which resulted in a net demand for land revenue amounting to 11·8 lakhs. The first regular settlement was made between 1862 and 1867, and was preceded by a survey. As was usual in Oudh, the Settlement officer had sole jurisdiction as a civil court to settle disputes regarding rights in land, which were numerous. The assessment was based on a comparison of the actual rents with the estimate made by applying selected rates to different classes of soil, and it resulted in a demand of 12·9 lakhs. A considerable area was permanently settled at reduced rates as a reward for loyalty during the Mutiny. The settlement was revised between 1889 and 1895 by successive Deputy-Commissioners, in addition to their regular work. The District was not resurveyed; but the maps were corrected and brought up to date, and the assessment was based on the recorded rents. This revision resulted in a demand of 15·5 lakhs, of which 1·1 lakhs is due from permanently settled estates. The assessment on the rest of the District amounted to 14·4 lakhs, which represented 48 per cent. of the rental 'assets.' The demand is at present 15·9 lakhs, and the incidence is Rs. 1·5 per acre, varying from R. 1 to Rs. 2 in different *parganas*.

Collections on account of land revenue and revenue from all sources have been, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	12,04	13,27	16,50	15,93
Total revenue . .	15,26	18,04	23,02	23,65

There is one municipality, UNAO, and seven towns are administered under Act XX of 1856. Local affairs beyond the limits of these are managed by the District board, which in 1903-4 had an income of one lakh, chiefly derived from rates. The expenditure in the same year amounted to 1·2 lakhs, including Rs. 58,000 spent on roads and buildings.

The District Superintendent of police has under him a force of 4 inspectors, 85 subordinate officers, and 306 constables distributed in 13 police stations, besides 87 municipal and town police, and 1,978 rural and road police. The District jail contained a daily average of 259 prisoners in 1903.

Unao is not distinguished for the literacy of its inhabitants, of whom only 3 per cent. (5·8 males and 0·1 females) could read and write in 1901. The number of public schools rose from 133 in 1880-1 to 142 in 1900-1, and the number of pupils from 5,172 to 6,263.

In 1903-4 there were 180 public schools with 8,018 pupils, of whom 52 were girls, besides 61 private schools with 639 pupils. Only 1,600 pupils in both classes of school had advanced beyond the primary stage. Government manages four of the schools and the District board 126. Out of a total expenditure on education of Rs. 41,000, Local funds contributed Rs. 36,000 and fees Rs. 6,300.

There are 7 hospitals and dispensaries, providing accommodation for 42 in-patients. In 1903 the number of cases treated was 27,000, including 439 in-patients, and 1,404 operations were performed. The expenditure in the same year amounted to Rs. 8,000, chiefly met from Local funds.

About 24,000 persons were successfully vaccinated in 1903-4, representing the low proportion of 25 per 1,000 of population. Vaccination is compulsory only in the municipality of Unao.

[W. H. Moreland, *Settlement Report* (1896); H. R. Nevill, *District Gazetteer* (1903).]

Unao Tahsīl (*Unnao*).—Head-quarters *tahsīl* of Unao District, United Provinces, comprising the *parganas* of Unao, Sikandarpur, Pariar, and Harhā, and lying between 26° 16′ and 26° 41′ N. and 80° 17′ and 80° 42′ E., north-east of the Ganges, with an area of 400 square miles. Population increased from 192,894 in 1891 to 204,850 in 1901. There are 286 villages, but only one town, UNAO (population, 13,109), the District and *tahsīl* head-quarters. The demand for land revenue in 1903-4 was Rs. 3,47,000, and for cesses Rs. 36,000. This is the least thickly populated *tahsīl* in the District, the density being 512 persons per square mile. It includes a large area of lowland in the Ganges valley, which is widest towards the north. The upland is level and chiefly composed of a light loam; but excellent rice is grown in the shallow depressions which abound. In 1903-4 the area under cultivation was 215 square miles, of which 77 were irrigated. Wells supply two-thirds of the irrigated area, and tanks most of the remainder.

Unao Town (*Unnao*).—Head-quarters of the District of the same name in the United Provinces, situated in 26° 33′ N. and 80° 30′ E., on the road from Cawnpore to Lucknow and on the Oudh and Rohilkhand broad- and narrow-gauge lines between the same places. Population (1901), 13,109. Tradition relates that it was founded by one Godo Singh in the eighth century, and some hundred years later passed under the Rājās of Kanauj, when an officer, named Unwant Singh, murdered the governor and built a fort, which he named after himself. About 1450 a descendant of Unwant Singh was treacherously murdered by Saiyids, whose descendants still hold part of the estate then seized. In the reign of Shāh Jahān a Shaikh, named Fateh-ullah, settled here, and some fine buildings erected by him still

remain. On July 29, 1857, a battle was fought between Havelock's forces and the mutineers, who were defeated with loss. Unao contains a branch of the American Methodist Mission, and besides the usual public offices has male and female dispensaries. It has been administered as a municipality since 1869. During the ten years ending 1901 the income and expenditure averaged Rs. 7,000. In 1903-4 the income was Rs. 12,000, chiefly from a house tax and a tax on professions and trades (Rs. 6,000); and the expenditure was Rs. 16,000. There is a thriving local trade, but no manufactures. Five schools are maintained with 300 boys, besides a girls' school with 6 pupils.

Unchahra (*Unchahera*).—Old town in Nāgod State, Central India, situated in 24° 23′ N. and 80° 48′ E., 20 miles south-east of Nāgod village, on the East Indian Railway. Population (1901), 3,785. The town is said to have been founded in 1489 on the site of a settlement belonging to the Teli Rājās, whose chief towns were Khoh and Naro. The district round Unchahra is called Barme or Varmai, a name which is said to be anterior to the Parihār invasion, though nothing is now known either of the origin of the name or of the former extent of the region. There are no ancient remains which can be assigned to a period before the ninth or tenth century. Up to 1720 this was the capital of Nāgod State.

[A. Cunningham, *Archaeological Survey Report*, vols. viii, ix, xxi.]

Und (*Hind, Ohind, Waihind*).—Village in the North-West Frontier Province, situated in 34° 2′ N. and 72° 27′ E., 15 miles above Attock, on the west bank of the Indus, just beyond the north-east corner of Peshāwar District. It marks the site of the ancient Indian Udakā or Uda-bhāndapura, the U-to-kia-han-ch'a of the Chinese pilgrim Hiuen Tsiang, once the capital of the Turki and Hindu Shāhi dynasties, which ruled the Kābul valley and Gandhāra immediately before the Muhammadan invasion. Hiuen Tsiang in the seventh century A.D. describes it as a rich city, 4 miles in circumference. The hard-won victory by which Mahmūd of Ghazni opened his way into the Punjab was fought before Waihind, the name by which the place was known to Albirūnī and the Muhammadan historians. It remained a place of some importance after this event, for Govinda-khāna, ruler of the Indus region and Gandhāra, was expelled from it by Shahāb-ud-dīn, king of Kashmīr, in the fourteenth century.

Undavalle.—Village in the Guntūr *tāluk* of Guntūr District, Madras, situated in 16° 30′ N. and 80° 35′ E. Population (1901), 1,123. It is chiefly famous for the numerous rock-cut shrines and *mantapams* which stand upon the hill beside it. The largest of these is a four-storeyed temple, with galleries and rudely sculptured figures, dedicated to Anantasayana, or Vishnu sleeping on the serpent, a colossal sculpture of whom is to be seen in the third storey. The caves are undoubtedly

of Brāhmanical origin, and perhaps belong to a date very soon after the downfall of Buddhism.

Underi (or Henery).—A small island in the Alībāg *tāluka* of Kolāba District, Bombay, situated in 18° 42′ N. and 72° 51′ E., near the entrance of Bombay harbour, due south of the Prongs lighthouse, 1,200 yards from the mainland and opposite the village of Thal. This, with the island of KHĀNDERI or Kenery, which is distant about a mile and a quarter to the south-west, forms one of the landmarks for vessels entering Bombay harbour. Underi is smaller and lower than Khānderi and is nearly circular. Except a small cove in the north-east side where boats lie, it is surrounded by rocks.

The earliest known mention of Underi is by Fryer in 1674, who calls it 'Hunarey' and misplaces it, putting it to the west of 'Cunarey.' The island was fortified by Sīdī Kāsim in 1680, and remained in his hands till the close of the seventeenth century. After working with the English for some time in blockading Khānderi, where Daulat Khān (Sivajī's admiral) had lately established himself, Sīdī Kāsim suddenly took possession of Underi in January, 1680, and began to fortify it. Two engagements followed between the Sīdī and the Marāthās. In the second fight Daulat Khān brought guns to bear from the mainland on Underi. After about a fortnight, Daulat Khān again came out with his whole fleet and engaged the Sīdī for four hours, but lost heavily. On August 1, 1680, Sambhājī, who had succeeded Sivajī (April, 1680), taking advantage of a dark night, landed two hundred men on Underi. They got within the works before they were discovered; but here the Sīdī attacked them and either took or killed the greater number. In 1761 Raghunāth Rao Peshwā granted Underi to the English; but the transfer never took place. The island was subsequently held on behalf of the Peshwās by the Angrias, who used the fort as a state prison. A hidden flight of steps led underground to a strong door, which gave entrance to a room 7 feet high and 12 feet wide, a loathsome dungeon swarming with vermin. About 1836, on suspicion of being concerned in a gang robbery, fifteen persons were confined in this hole. In four months, from want of light, air, and water, thirteen of the fifteen died raving mad. In 1840 Underi lapsed to the British Government; and, till 1858, when the survey settlement was introduced, it continued the head-quarters of a subdivision of 130 villages.

Unī.—*Thakurāt* in the MĀLWĀ AGENCY, Central India.

Uniāra.—Chief town of an estate of the same name in the Mālpura *nizāmat* of the State of Jaipur, Rājputāna, situated in 25° 55′ N. and 76° 4′ E., on the Galwa river, a tributary of the Banās, about 72 miles south of Jaipur city. The town is walled and fortified, and in 1901 contained 4,461 inhabitants. The Rao Rājā of Uniāra belongs

to the Narūka sept of the Kachwāha Rājputs, and pays to the Jaipur Darbār a tribute of about Rs. 37,600. He maintains a primary school attended by 36 boys, and a hospital with accommodation for 4 in-patients. There are also three elementary indigenous schools. The estate contains one town and 122 villages, with a population in 1901 of 27,913, of whom 90 per cent. were Hindus. It is situated in one of the richest portions of the Jaipur State, and yields to the Rao Rājā about 3 lakhs a year.

United Provinces of Agra and Oudh.—The area administered by the Lieutenant-Governor of Agra and Oudh lies between 23° 52′ and 31° 18′ N. and 77° 3′ and 84° 39′ E. The Provinces are bounded on the north by Tibet, and on the north-east by Nepāl; on the east and south-east by the Champāran, Sāran, Shāhābād, and Palāmau Districts of Bengal; on the south by two of the Chotā Nāgpur States in the Central Provinces, Rewah and some small States in the Central India Agency, and Saugor District in the Central Provinces; on the west by the States of Gwalior, Dholpur, and Bharatpur, the Districts of Gurgaon, Delhi, Karnāl, and Ambāla in the Punjab, and the Punjab States of Sirmūr and Jubbal. The Jumna river forms part of the western boundary, the Ganges part of the southern, and the Gandak part of the eastern; other boundaries are artificial.

According to the District surveys the areas of the two Provinces are, in square miles: Agra, 83,198; Oudh, 23,966; total, 107,164. Including some river-beds which form District boundaries and are excluded from the District details, the total area amounts to 107,494 square miles. The area of the two Native States in the Provinces (Rāmpur and Tehrī) is 5,079 square miles more.

A Presidency of Agra was first formed in 1834, up to which date the area then separated had been included in the Presidency of Bengal, being sometimes called the Western Provinces. In 1836 its name was changed to the Lieutenant-Governorship of the North-Western Provinces. The Province of Oudh[1] was annexed in 1856, and became a Chief Commissionership with a separate administration. In 1877 the two Provinces were brought together under the Lieutenant-Governor of the North-Western Provinces and Chief Commissioner of Oudh, and in 1902 the name of the Provinces was changed and the title of Chief Commissioner dropped.

Physical aspects.

The United Provinces include four distinct tracts of country: namely, portions of the Himalāyas, the sub-Himālayan tracts, the great Gangetic plain, and portions of the hill systems of Central India.

The Himālayan tract, which lies on the exteme north, comprises

[1] Awadh is a corruption of Ajodhyā, and was the name of a province before British rule.

the Districts of Garhwāl, Almorā, Dehra Dūn, and Nainī Tāl (in part), with the Native State of Tehrī, its area being nearly 19,000 square miles. The outer ranges of hills rise quickly from the submontane tracts to a height of 7,000 or 8,000 feet, and on these are situated the hill stations of Nainī Tāl and Mussoorie, and several small cantonments. A little farther in the interior is a second range, after passing which the elevation increases till heights of 10,000 and 11,000 feet are attained. Beyond, but still south of the great central axis of the Himālayas, tower the huge peaks of Trisūl or the 'trident' mountain (23,382 feet); Nandā Devī (25,661 feet), the highest mountain in British dominions; and Nandā Kot (22,538 feet). On the west Dehra Dūn District lies partly between the Himālayas and the Siwāliks for 45 miles, extending up the slopes of both ranges. These mountainous regions, which nowhere assume the comparative level of a plateau, include some of the wildest and most magnificent country in the whole range of the Himālayas, and among their snow-clad peaks the sacred streams of the Ganges and Jumna take their rise. Many famous temples and places of pilgrimages line the upper course of the Ganges, and thousands of pious Hindus from all parts of India annually visit the holy source.

The submontane tract between the Ganges and the Sārdā river has three distinct portions. Immediately below the hills lies a strip of land, 20 miles wide in the west and gradually becoming narrower in the east, called the Bhābar[1], into which the torrents rushing down from the steep slopes sink and are lost, except during the rainy season, beneath a mass of boulders and gravel. Wells are almost unknown, and cultivation is carried on by means of small canals. A large portion of the Bhābar is covered with forests, the home of tigers and wild elephants, while other game abounds. Below the Bhābar is a wider strip of land called the *tarai*, a damp and marshy tract, covered for the most part with thick jungle and tall grass. In both the *tarai* and the Bhābar the population is largely migratory, cultivators coming in from the adjacent Districts in the plains to the *tarai*, and from the hills to the Bhābar, and departing after cutting their crops. Only the Thārus and allied tribes, who seem fever-proof, can stand the pestilential climate of the *tarai* throughout the year.

Other Districts in the plains partake of the nature of the *tarai*, especially in their northern portions. The rainfall is heavy and streams are numerous, while the spring-level is high. Sahāranpur lies below the Siwāliks; while Bijnor, the Rāmpur State, Bareilly, and Pīlībhīt border on the *tarai*, and Kherī, Bahraich, Gondā, Bastī, and Gorakhpur run up to the Nepāl frontier. The whole of this tract is a sloping

[1] The word means 'porous.'

plain, lying practically free from the Himālayan system, though low hills are found to the north of Bahraich and Gondā. The area of these submontane Districts is about 24,000 square miles.

Rather more than half the total area of the Provinces (53,776 square miles) is included in the great Indo-Gangetic plain. The western portion comprises thirteen Districts: Muzaffarnagar, Meerut, Bulandshahr, Alīgarh, Muttra, Agra, Farrukhābād, Mainpurī, Etāwah, Etah, Budaun, Morādābād, and Shāhjahānpur. Most of these are situated entirely in the Doāb, or space between the two rivers Ganges and Jumna; but Muttra, Agra, and Etāwah also extend to the south and west of the Jumna, and the last three lie north and east of the Ganges. With the exception of Muttra and Agra, these Districts form a gently sloping plain of alluvial soil, in which neither rock nor stone approaches the surface, though beds of *kankar* (nodular limestone) are found. In the west of Muttra and Agra low stone ridges and hillocks form a feature of the landscape. This portion of the Provinces is by far the most prosperous. Ten of the thirteen Districts are protected by canals, and the standard of comfort is distinctly higher than elsewhere. In the centre of the great plain lie the Districts of Cawnpore, Fatehpur, and Allahābād, with nine of the Oudh Districts: namely, Lucknow, Unao, Rāe Bareli, Sītāpur, Hardoī, Fyzābād, Sultānpur, Partābgarh, and Bāra Bankī. The Oudh Districts all lie between the Ganges and the Gogra, while Cawnpore, Fatehpur, and part of Allahābād are in the Doāb. Allahābād also extends north of the Ganges and south of the Jumna. There are no canals in Oudh, but parts of the other three Districts are irrigated by these works. The tract is generally fertile, and closely cultivated. The eastern portion of the great plain includes Balliā, Jaunpur, Azamgarh, Benares, and Ghāzīpur, all lying between the Gogra and the Ganges, the last two Districts extending also south of the Ganges. The rainfall is heavier than in the central and western portions, and the population denser.

On the south-west and south lie two small tracts belonging to natural divisions of India which differ considerably from the main portions of the Provinces. The four Districts of Jālaun, Bāndā, Hamīrpur, and Jhānsi, with a total area of 10,400 square miles, form part of the Central Indian plateau, and are generally known as British Bundelkhand. They are situated on and below the eastern slopes of the great plateau, with a gradual fall from south-west to north-east. The tract is broken up, especially in the south, by low rocky hills, spurs of the Vindhya mountains, covered with stunted trees and jungle. The soil is largely rocky and infertile, with considerable patches of the richer type known as 'black soil,' which differs entirely from the alluvium of the great plain. The spring-level is low, and there is little canal-irrigation. The tract is peculiarly liable to suffer from either

an excess or a deficiency of rainfall, and as a whole ranks as the poorest and most backward portion of the Provinces.

Mirzāpur, the largest District in the plains, extends from north of the Ganges to the East Sātpurās. Of a total area of 5,200 square miles, 600 belong to the great plain; 1,700 to 1,800 form the central table-land which stretches from the summit of the Vindhyan scarp 30 miles or more to the Kaimur range and the valley of the Son; and the remainder includes the wilderness of hill and valley, jungle and forest, ravine and crag, with here and there hill-encircled alluvial basins, which makes up South Mirzāpur.

The most important mountains situated in the Provinces are the Himālayas, which have been already referred to. Running parallel to the outer ranges, at an average distance of 15 miles, is the chain of hills known as the Siwāliks, which forms the south-western boundary of Dehra Dūn District, and has a total length in these Provinces from the Ganges to the Jumna of about 40 miles. East of the Ganges a similar elevation can be traced in part of the Provinces, but its height is insignificant. The northern slope, which reaches 3,500 feet at the highest, leads gently down into the valley or Dūn which separates these hills from the Himālayas, but on the south a steep and bold escarpment falls abruptly towards Sahāranpur. The principal pass is that called Mohan, over which the main road runs from Sahāranpur to Dehra Dūn; but its importance has been much diminished since the opening of the Hardwār-Dehra Railway in 1900. The outlying spurs of the Arāvallis in Agra and Muttra are mere hillocks, though in the latter District great religious sanctity attaches to them. The three ranges of the Vindhyan system in Bundelkhand are known as the Bindhāchal, the Pannā, and the Bandair hills; but the highest point is only 1,300 feet, in Bāndā District. The East Sātpurās in Mirzāpur are geologically distinct from the Vindhyas, and form a more rugged mass, with less frequent intervals of level ground.

The drainage of the whole area ultimately falls into the GANGES, which divides the Provinces into two parts, that on the east and north being roughly double the portion lying on the west and south. The western side consists of two tracts, the DOĀB, between the Ganges and the Jumna, and the tract south-west of the Jumna. In the northern Doāb much of the drainage of the Siwāliks and the plain below passes through the HINDAN into the Jumna. Lower down the more considerable streams join the Ganges. The JUMNA, however, receives on its right bank the large river CHAMBAL, draining part of Central India and Rājputāna, and the drainage from the northern slope of the Vindhyas through Bundelkhand. East of the Ganges there are three main systems, the RĀMGANGĀ, GUMTĪ, and GOGRA, the first and last of which rise in the Himālayas, while the Gumtī

starts in the Tarai between them. The characteristic feature of each of these three rivers is that the greater part of the water carried off by them is received on the left or northern banks. The GREAT GANDAK just touches the eastern boundary of the Provinces, but is not an important part of the river system.

The GANGES rises in the Tehrī State, under the name of Bhāgīrathi, and its junction with the Gogra is the most easterly point in the Provinces. It is a considerable river even at Hardwār, where the UPPER GANGES CANAL starts, and it is tapped again at Naraura for the LOWER GANGES CANAL. It is the source of the water-supply of the large cities of Meerut (by a canal), Cawnpore, and Benares. Its chief tributaries are the Rāmgangā (Farrukhābād), Jumna and Southern Tons (Allahābād), Gumtī (Ghāzīpur), Chhotī Sarjū or Eastern Tons and Gogra (Balliā), besides many smaller affluents. The principal towns on and near its banks are Srīnagar (on the Alaknandā affluent), Hardwār, Garhmuktesar, Anūpshahr, Soron, Farrukhābād, Kanauj, Bithūr, Cawnpore, Dalmau, Mānikpur, Karā, Allahābād, Sirsā, Mirzāpur, Chunār, Benares, Ghāzīpur, and Balliā. Before the construction of roads the Ganges was the chief route for goods and passengers between Bengal and Upper India, and for more than thirty years after the completion of the grand trunk road it continued to be the principal through-trade route. The opening of railways has altered this; but timber and bamboos are still floated down the upper part of the course, and stone, grain, and sugar are exported to Bengal. Rice is largely imported from Bengal by river, and other grain, manufactured goods, and metals are brought in the same way.

The JUMNA likewise rises in Tehrī, west of the lofty mountain Bandarpūnch, in 30° 1′ N. and 78° 27′ E. At its junction with the Northern Tons it emerges from the Himālayas into the Dūn, and piercing the Siwāliks enters the western plain at Faizābād, near which place it is tapped by the EASTERN and WESTERN JUMNA CANALS. It forms the western boundary between these Provinces and the Punjab as far as Muttra District, giving off a third canal 10 miles below Delhi at Okhla. After traversing Muttra, Agra, and Etāwah Districts, it forms the boundary between the three northern Districts of the Allahābād Division (Cawnpore, Fatehpur, and Allahābād) and the Jālaun, Hamīrpur, and Bāndā Districts of Bundelkhand. It then flows across Allahābād District to its junction with the Ganges, 860 miles from its source. The principal tributaries are the Northern Tons (Dehra Dūn), Hindan (Bulandshahr), Chambal (Etāwah), Betwā (Hamīrpur), and Ken (Bāndā). On or near its banks are the towns of Bāghpat, Brindāban, Muttra, Mahāban, Agra, Fīrozābād, Batesar, Etāwah, Kālpī, Hamīrpur, and Allahābād. The Jumna carries a smaller volume of water than the Ganges, though its course to the point of

junction is longer, and differs from it in character, being usually confined within high, well-defined banks, while the Ganges rolls from side to side of a wide bed often five or six miles in breadth during floods. Its water is the source of supply for the towns of Agra and Allahābād, and has been found to possess, when fresh, special virtue in destroying the enteric microbe.

The GOGRA, or Ghāgrā, the great river of Oudh, vies with the Ganges in volume, while it surpasses it in velocity. Its main constituent is the Kauriāla, which rises in the upper ranges of the Himālayas, and after passing through Nepāl sweeps down on the plains in a series of rapids over immense boulders. Almost immediately after it debouches on the *tarai* the stream splits in two, the western branch retaining the name of Kauriāla, though the eastern, known as the Girwā, has a larger volume of water. The two branches reunite shortly after entering British territory in Bahraich District, and form the boundary between Bahraich and Kherī. At Bahrāmghāt the stream, which has been joined by other tributaries, assumes the name of Gogra (though this is sometimes applied at Mallānpur higher up); and from here it divides Gondā, Bastī, and Gorakhpur from Bāra Bankī, Fyzābād, Azamgarh, and Balliā, and then forms the boundary between these Provinces and Bengal as far as its junction with the Ganges. Its principal tributary is the large river, also coming from the higher Himālayas, which is known in its earlier course as the Kālī and Sārdā, and emerges from the hills at Barmdeo in Almorā. The point of junction has varied considerably within the last hundred years; but the channel which now brings down the main stream is the Dahāwar, which joins the Kauriāla at Mallānpur. The main stream of the Sarjū joins the Gogra in Bahraich District, and the Muchaura and Rāptī in Gorakhpur. Fyzābād and Ajodhyā are the two largest towns on its banks; Tāndā and Barhaj are also situated on or near it.

The GUMTĪ rises in Pīlībhīt, and its valley is scooped out almost in the middle of the plain between the Ganges and the Gogra. After flowing south-east through Shāhjahānpur and Kherī Districts, where it becomes navigable, it forms the boundary between Sītāpur and Hardoī. Entering Lucknow District, it passes the city. Its winding course passes through the Districts of Bāra Bankī, Sultānpur, and Jaunpur, and then it joins the Ganges on the borders of Benares and Ghāzīpur. The Sai, its largest tributary, joins it in Jaunpur District; the Kalyāni, Kathnā, and Sarāyān are smaller affluents. The traffic on the Gumtī has been reduced since the opening of the Oudh and Rohilkhand Railway; but grain, fuel, and thatching grass are still carried. From time to time disastrous floods are caused by heavy rain when the river is full.

The RĀMGANGĀ rises in the Outer Himālayas and enters the plains

in Bijnor District, whence it crosses Morādābād, the Rāmpur State, Bareilly, Shāhjahānpur, Farrukhābād, and Hardoī, reaching the Ganges, nearly opposite Kanauj, after a total course of about 370 miles. Morādābād is the principal town on its banks; but its bed changes frequently throughout its whole course in the plains, and for some years, up to 1871, it flowed close to Bareilly.

The greater part of the Provinces consists of a level plain, the monotony of which is broken only by the numerous village sites and groves of dark-olive mango-trees which meet the eye in every direction. The great plain is, however, highly cultivated, and the fields are never bare except during the hot months, after the spring harvest has been gathered, and before the rainy season has sufficiently advanced for the autumn crops to have appeared above the ground. The country-side then puts on its most desolate appearance; even the grass withers, and hardly a green thing is visible except a few patches of garden crops near village sites, and the carefully watered fields of sugar-cane. At this time the *dhāk*-trees (*Butea frondosa*) burst forth with brilliant scarlet flowers—a striking contrast to their dusty surroundings. With the breaking of the monsoon in the middle or end of June the scene changes as if by magic: the turf is renewed, and tall grasses begin to shoot in the small patches of jungle. Even the salt *ūsar* plains put on a green mantle, which lasts for a very short time after the close of the rains. A month later the autumn crops—rice, the millets, and maize—have begun to clothe the naked fields. These continue in the ground till late in the year, and are succeeded by the spring crops—wheat, barley, and gram. In March they ripen and the great plain is then a rolling sea of golden corn, in which appear islands of trees and villages, but no hedges. North of the Provinces the Himālayas rise with their outer face and flanks clothed in dense forest. The inner ranges form a tangled mass of ridges towering higher and higher till the lofty snowy peaks are seen. In the south and south-west the level of the plain is broken by the low but precipitous scarp of the Vindhyas, and the isolated hills which stand out beyond.

In the Outer Himālayas are found several mountain lakes, known as Nainī, Bhīm, Naukuchhiyā, Malwā, and Sāt, with the affix *tāl* or 'lake.' They are more remarkable for their beautiful scenery than for their size. The first four vary from 110 to 120 acres in area, while the last is a series of seven basins (*sāt* = 'seven'), two of which are now dry. In September, 1893, a landslip took place at GOHNĀ in the interior of Garhwāl District, when the side of a mountain 9,000 feet above the sea fell into the Birahī Gangā, the bed of which is 4,000 feet below the summit of the mountain. A dam was formed 900 feet high, 2,000 feet across the top, and 11,000 feet long. The dam burst in August, 1894, and the level fell by about 390 feet, leaving a permanent lake 3,900

yards long with an average breadth of 400 yards and a depth near the dam of 300 feet.

In the Doāb, in Oudh, and still more in the Gorakhpur and Benares Divisions, *jhīls* or marshy lakes abound, most of which shrink to small dimensions in the hot season. Thus the Surahā Tāl in Balliā covers an area of 8,500 acres when full, but dwindles to 2,800 acres in the hot season. The Bakhira Tāl in Bastī, 5 miles long and 2 broad, is seldom more than 4 or 5 feet deep. Another large swamp is at Sāndī in Hardoī, while the Behtī lake in Partābgarh has been drained and its site is now cultivated land. In Bundelkhand and Mirzāpur there are artificial reservoirs of water, formed by embanking the mouths of valleys, most of them monuments of a former time. The principal lakes in Bundelkhand are in charge of the Irrigation department.

The Provinces may be divided geologically into a succession of zones lying north-west to south-east. North-east of the central axis of snowy peaks, and stretching up to and into Tibet, is a vast sequence of sedimentary strata lying in a great elevated basin. The series begins with unfossiliferous slates, quartzites, and occasional conglomerates of very ancient aspect, called Haimantas, which are at the base of everything, and are probably identical with the slate series found south of the great axis. These pass up into, and are overlaid by, thin-bedded dark-grey coral limestones, followed by flesh-coloured quartzite, and more coral limestone, shales, grey and crinoid limestones, which are probably of Silurian age, and capped by a massive white quartzite. The total thickness is about 2,300 feet. Above this Pre-Permian group is a layer of black crumbling shales of Upper Permian age, and there is thus a physical and palaeontological break here between the Upper Silurian and Upper Permian. After about 130 feet, these black shales pass into the Trias, which is the most characteristic series of this part of the world. It averages 2,000 feet in thickness, consisting of dark shales and limestone beds, with a quartzite stage near the top. The series is prolific in characteristic fossil zones. About 2,000 feet of massive well-bedded limestone, mostly unfossiliferous, follow above the Trias, the so-called Dachsteinkalk in part, which represents the Lower and Middle Jurassic. Above that, again, come the characteristic dark Spiti shales, over 1,000 feet thick, with concretionary bands, containing a fine Upper Jurassic fauna, not yet described in detail. These pass in this part into great thicknesses of dark Giumal sandstone of presumably neocomian age (Lower Cretaceous). The regular sequence is now broken, along the watershed, by a great horizontal thrust plane, bringing in exotic masses of older limestones and shales set in basic volcanic rock. They chiefly build up the lofty jagged summits from

[1] Condensed from notes by C. S. Middlemiss and E. Vredenburg, Geological Survey of India.

Bālchadhurā (18,110 feet) and Ghatamenin (18,700) to Kungribingri (19,170), and lie upon Giumal sandstone or Spiti shales. Although they show magnificent suites of marine fossils, ranging from Permian or Permo-Carboniferous to Upper Jurassic, the form of the rock, and the fossils it contains, differ from the same section lower down; and these masses have probably come from the north.

The snowy range containing all the loftier peaks is built up of immense sills of massive gneissic rock, much of which is probably very ancient. With the gneissose granite is associated a large quantity of thin-bedded micaceous, garnetiferous, and other crystalline schists.

The large area from the snowy range to the outer edge of the Himālayas has not been fully examined. The most general feature is the gradual passage from the flatly dipping foliated schists with sills of gneissose granite to steeply dipping slates, slaty shales, and quartzite, with occasional thin bands of dark limestone and here and there volcanic breccia. All are unfossiliferous, and must be presumed to be at least as old as Pre-Cambrian. Here and there laccolites and sills of gneissose granite reappear, with much the same composition as, but isolated from, the central chain. Massive limestone and dolomite formations are found at many places, especially along the southern edge. They are of varying but considerable thickness, always unfossiliferous, always in narrow bands among the slates. The Lower Himālayas are remarkable for their steep-sided ravines and frequent convex slopes, due to constant undermining by swollen rivers. Landslips are, as a consequence, not uncommon. In some cases, these calcareous formations are overlaid by an imperfectly fossiliferous series of dark sandy limestone, probably of mesozoic age. These in turn frequently underlie thin dark shales and calcareous shales. It is generally in rocks of these younger sub-zones that the ores of copper, lead, and iron in Kumaun are worked, but with only a small measure of success.

The sub-Himālayan zone of younger Tertiary strata is well defined and sharply separated from the Outer Himālayas by a continuous reversed fault, and is 6 to 14 miles in width, except near the Dehra Dūn, where it is wider. The whole of these Tertiary strata are fresh-water deposits, and are of immense thickness, comprising three stages: the Upper Siwālik conglomerates, sands and clays; the Middle Siwālik sand rock; and Lower Siwālik Nāhan sandstone. The system is celebrated for having yielded the magnificent Siwālik fauna (chiefly mammalian). Most of these fossil remains have been gathered from the middle and upper rock stages. They comprise thirty-nine genera and seventy-one species of mammalia which exist at the present day, and twenty-five genera and thirty-seven species now extinct. Gypsum is found in the Nihāl Nadī, below Nainī Tāl; gold is washed in very small quantities in the Sonā Nadī; and iron was formerly worked from

clays in the Nāhan sandstones, near Dechaurī and Kālādhungī in Nainī Tāl District.

The Gangetic alluvium is still being carried down from the Himālayas and deposited by the Ganges and its affluents. It is 90 to 300 miles in width and extends to unknown depths near the foot of the hills, where its floor is probably still sinking. On the south it overlaps the ancient rocks of Peninsular India, and is much thinner. A well-boring was made at Lucknow from a surface 370 feet above sea-level to a depth of 1,336 feet without reaching the bottom of the Ganges basin. At Agra solid rock was met at 481 feet from a surface-level of 553 feet above the sea. The Bhābar gravel or torrent-boulder zone reaches a height of about 1,000 feet. Below the Bhābar comes the great alluvial plain of clays and sands, broken only by the wide river valleys, which are from 50 to 200 feet lower in level, and have the distinctive names of *khādar*, *katrī*, *kachhār* or *deāra*, as opposed to *bāngar*. In the drier parts of the great plain the fertility of the soil is impaired by a surface efflorescence called *reh*. This consists of carbonate and sulphate of soda, often mixed with common salt. Land covered with these salts, or barren from any other cause, is called *ūsar*, and includes about 2,000,000 acres.

In the south-west of the Provinces the Vindhyan rocks emerge from the alluvium in Mirzāpur, Allahābād, Bāndā, Hamīrpur, and Jhānsi Districts. The system is primarily distinguished by its series of three massive scarps of sandstone, each representing a different subdivision; but only two of these are found in the United Provinces. The northernmost or Kaimur sandstone, which forms the Bindhāchal range, is deeply scored by river valleys. The celebrated forts of Chunār and Kālinjar stand on detached masses of this range. Farther south the Lower and Upper Rewah sandstones occur in the Pannā range. Both of these formations are found throughout the southern portion of the Districts named above. In Mirzāpur the jungle series of red shale, Bijāwar slates, quartzites, and haematitic jaspers and Archaean gneiss lie below them, and the Gondwāna shales, sandstones, and boulder-beds above them. Coal is found in the latter, and was formerly worked. In Jhānsi and Hamīrpur the gneiss is more prominent; but the Bijāwar series occupies a strip of land about 17 miles westward from the Dhasān river, containing rich haematitic ore in places, with a cupriferous vein in one locality. The outer fringe of the great spread of basalt constituting the Mālwā trap just reaches the south of the Lalitpur *tahsīl* in Jhānsi. In Agra District Vindhyan sandstones again appear, and farther north in Muttra are a few ridges of ancient quartzites.

[1] The flora of British India has been divided into five distinct

[1] Condensed from an account by J. F. Duthie, lately Superintendent, Botanical Survey of Northern India.

elements[1]. The oldest, called the Indo-African, extends from the Deccan to the Gangetic plain and to the drier parts of the Himālayas. Thus the flora of North Africa and Arabia is represented by *Peganum*, *Fagonia*, *Balanites*, *Acacia arabica*, *Alhagi*, *Grangea*, *Salvadora*, &c.; and that of tropical Africa by species of *Grewia*, *Sida*, *Corchorus*, *Triumfetta*, *Indigofera*, *Gloriosa*, and many others. The Eastern element, belonging to the peninsula from Singapore to Assam, is represented along the base of the Himālayas from Gorakhpur to the Jumna. The genera *Astragalus*, *Artemisia*, *Pedicularis*, and *Corydalis*, with many *Boragineae* and *Umbelliferae*, are characteristic of the Central Asian element, found chiefly at high elevations, but sometimes extending to lower levels on the western drier ranges. The European element appears to have entered at the western end of the Himalāyas, not long after the southward extension of the Central Asian element, and to have spread eastward in both hills and plains. The Quaternary element occupies the cultivated tracts and accompanies man.

Throughout the great plain vegetation is on the whole uniform, differences being chiefly due to variations in rainfall and temperature. In the west, where the rainfall is under 30 inches, vegetation becomes scanty, the trees and shrubs are mostly thorny, and plants characteristic of desert regions are found, such as *Alhagi*, *Capparis*, *Prosopis spicigera*, *Fagonia*, *Tecoma undulata*, *Salvadora persica*, *Salsola*, and species of *Grewia*, *Sida*, and *Acacia*. Some of these extend eastwards in sandy waste ground. Two well-marked features are observed in the annual herbaceous species. Those appearing in the cold season on waste ground, or as weeds in cultivation, are mostly of European origin and more abundant in the wheat-growing Districts of the north-west; while the annual herbage which springs up in the rains is composed mainly of species which have come from the east or from Central or Southern India. The sandy riverain tracts produce coarse grasses and deep-rooted perennials, with prickly shrubs and other desert plants. In the ravines the scanty vegetation consists mainly of stunted trees and shrubs and perennial plants, many of which belong to the African and Arabian type. In *ūsar* the land produces no vegetation where *reh* is very abundant, but elsewhere *Sporobolus arabicus* or *pallidus* and *Chloris virgata* are found, which will not thrive except on saline soil. The natural orders most represented in the Upper Gangetic plain are: *Leguminosae*, *Gramineae*, *Compositae*, and *Cyperaceae*. Only two palms are found wild: namely, *Phoenix sylvestris* and *P. acaulis*.

The tropical zone extends up to about 5,000 feet above the sea, and is eminently a forest[2] tract forming part of the great belt which includes the Bhābar. In the west, the vegetation of the Dūn valley between the

[1] C. B. Clarke in *Journ. Linn. Soc.*, vol. xxxv (1898).
[2] For details see section on Forests.

Siwāliks and Himālayas is particularly luxuriant. Orchids are plentiful along the base of the Himālayas, and about sixty-two species representing twenty-five genera have been identified. The aspect of the vegetation changes as the slopes rise; and at 4,000 feet *Engelhardtia*, *Rhus*, *Pistacia*, *Cornus*, *Rosa*, *Clematis*, *Bauhinia retusa*, and *Albizzia mollis* (pink *siris*) are met with, followed by the *banj* oak-tree, rhododendron, and *Pieris ovalifolia*. The forests are more scattered on the southern slopes, while the northern declivities are covered with dense growths. The temperate zone reaches to about 12,000 feet, which is the average limit of forests; and here European genera increase, such as *Clematis*, *Berberis*, *Ilex*, *Rhamnus*, *Vitis*, *Acer*, *Rubus*, *Rosa*, *Cotoneaster*, *Viburnum*, *Lonicera*, *Rhododendron* (*arboreum* and *campanulatum*), *Quercus* (*incana*, *dilatata*, *lanuginosa*, *annulata*, and *semecarpifolia*), *Pinus* (*longifolia* and *excelsa*), and *Arundinaria* (ringals). The epiphytic ferns (*Davallia*, *Polypodium*, &c.) drape the trees during the rains, turning brown and shrivelling when the monsoon ceases. At about 12,000 feet the high-level forests begin to thin off into thickets of birch and willow, mixed with dwarf rhododendron and other shrubby plants, until the open pasture land is reached, which is richly bedizened in the summer months with brilliantly coloured alpine species. *Ranunculaceae*, *Cruciferae*, *Leguminosae*, *Rosaceae*, *Saxifragaceae*, *Crassulaceae*, *Umbelliferae*, *Caprifoliaceae*, *Compositae*, *Campanulaceae*, *Primulaceae*, *Gentianaceae*, *Scrophularineae*, *Labiatae*, *Polygonaceae*, *Salicineae*, and *Gramineae* are the natural orders most largely represented. *Saxifraga*, *Sedum*, and *Saussurea* have been found up to 17,000 feet.

In the hilly portions of Mirzāpur many Central and Southern Indian species reach their northern limits, such as *Hardwickia binata* and *Soymida febrifuga*. The flora of Bundelkhand is similar in many respects to that of South Mirzāpur, but the drier climate encourages the growth of desert plants. *Ailantus excelsa*, *Anogeissus pendula*, and the teak-tree do not grow wild north of Bundelkhand.

Elephants are found wild in the Siwāliks and the Bhābar, and every few years they are noosed by men riding tame elephants. Tigers are fairly common in the forests of the Siwāliks, the sub-Himālayan tracts, and Mirzāpur District, and are also found in the south of Allahābād, Bāndā, and Jhānsi. Leopards are still more widely distributed, and the snow leopard occurs in the Himālayas. Within the last few years a rhinoceros has been shot in Gorakhpur District, and wild buffaloes are sometimes met with there. Wolves, jackals, and hyenas are common nearly everywhere, and the first named are not infrequently the cause of death to human beings. In the Siwāliks, Almora District, parts of Northern Oudh, Mirzāpur, Bāndā, and the Lalitpur subdivision of Jhānsi wild dogs (*Cyon dukhunensis*) are occasionally met with. Antelope, *nīlgai* (*Boselaphus tragocamelus*), and wild hog abound in many

parts of the open plains. *Sāmbar* (*Cervus unicolor*), *kākar* or barking-deer (*Cervulus muntjac*), the four-horned antelope (*Tetracerus quadricornis*), and *chītal* or spotted deer (*Cervus axis*) are to be found in the forests; while the swamp deer, or *gond* (*Cervus duvauceli*), and *pārha*, or hog deer (*Cervus porcinus*), live near swamps, and the *chinkāra* (*Gazella bennetti*) haunts the jungly ravines on the banks of the larger rivers. Musk deer (*Moschus moschiferus*), *thār* (*Hemitragus jemlaicus*), *gural* (*Cemas goral*), and other species of wild goats, sheep, and goat-like antelopes are found in the Himālayas. In the hills of Kumaun and in Mirzāpur and Bundelkhand black bears (*Ursus torquatus* in the Himālayas and *Melursus ursinus* elsewhere) are fairly common, while the Isabelline bear has been observed near the snows. Many species of ducks and geese visit the Provinces in the cold season and a few breed here. Snipe, quail, black and grey partridge, sand-grouse, bustard, plover, florican, and jungle-fowl are the commonest game-birds, while woodcock, *chikor*, and pheasants are found in the hills, and the sacred peacock in most parts of the plains. Snakes are common everywhere, and immense pythons are met with at the foot of the outer ranges of the Himālayas and in Bundelkhand. Cobras and *karaits* (*Bungarus caeruleus*) cause considerable loss of human life, and also kill cattle.

[1] The year may be divided into three distinct seasons. The cold season, commencing shortly after the withdrawal of the south-west monsoon, begins at the end of October and extends to the middle or end of March. It is characterized by bright clear weather, generally cloudless except for a few flecks of cirrus which accompany disturbances from Persia. At night frost on the ground is not infrequent during December, January, and February, but the days are pleasantly warm. Rain may fall at any time, owing to storms from Persia; but the total amount does not exceed two inches in the plains, and it usually falls about Christmas or early in the New Year. At the end of March the increasing heat causes a hot land-wind throughout the day, often coming from the west with considerable force, and accompanied by violent dust-storms. In June this wind ceases, as the south-west monsoon approaches, and the rains commence in the south of the Provinces between the middle and end of June. After the first burst the weather is broken, but rainless intervals are not uncommon. In September these dry periods become more frequent and last longer, and in October the monsoon currents cease. The climate in the hills resembles closely that of the low-lying parts of Switzerland. The winter is frosty, and snow generally falls as low as 5,000 feet, while it has been recorded at 2,500 feet. The summer is warm and relaxing, except at high altitudes. In the rains there is much cloud and fog.

The mean shade temperature in the plains varies slightly according

[1] From a note by E. G. Hill, D.Sc., Meteorological Reporter.

to the position of stations: thus Agra, which is near the Rājputāna desert, is very hot in the dry season, and is also warmer than more easterly stations during the monsoon, owing to its smaller rainfall. The difference is, however, only a few degrees. In the different seasons the temperature ranges from 60° or 61° in January to 93° or 94° in May. The average maximum and minimum temperatures of the representative places shown in Table I on page 258 may be ascertained by adding or subtracting half the daily range: thus the average temperature varies from a minimum of 47° or 48° in January to a maximum of 107° in May. The highest maximum recorded was 120° at Agra on June 18, 1878; but temperatures of 115° to 116° are reached at one place or another nearly every year.

The monsoon rain may come from either the Bengal or the Bombay current, and the heaviest rain is frequently caused by the meeting of the currents from both directions. The fall in the plains is heaviest in the east, where it amounts to over 50 inches, and least in the north-west, where it is only 27½ inches, the humid winds discharging their moisture as they pass across the country. As they reach the submontane Districts and outer hills, cooling causes a precipitation greater than in the plains. Thus the rainfall is, in the plains: at Benares, 40 inches; at Cawnpore, 31 inches; and at Agra, 27½ inches; in the submontane Districts, at Gorakhpur, 50 inches; at Bahraich, 41 inches; at Roorkee, 42 inches; and in the Outer Himālayas, at Nainī Tāl, 102 inches; at Mussoorie, 97 inches; and at Rānīkhet beyond the outer range, only 54 inches. There is a similar decrease in the Bombay current, which gives 60 inches at Jubbulpore, 49 inches at Saugor, and only 37 inches at Jhānsi. Variations in the rainfall are common. In 1883 Jhānsi received only 15 inches or 40 per cent. of the normal, and in 1896 Allahābād received 18·3 inches (46 per cent.), Agra 9·4 inches (34 per cent.), and Cawnpore 16·6 inches (52 per cent.). On the other hand, in 1894 there was a large excess all over the Provinces. Allahābād received 76·3 inches (nearly double the normal), Dehra Dūn 123·8 inches, and Mussoorie 157·3 inches. The heaviest fall recorded within twenty-four hours in the plains is 32·4 inches at Nagīna in Bijnor District on September 18, 1880. For agricultural purposes the distribution of the fall is most important, and a premature cessation before the end of August will cause more damage than a postponement of the first fall to the middle, or even the end, of July.

Destructive storms and cyclones are rare in these Provinces, and none of importance has been recorded. In March and April much damage to crops is often done in limited areas by hail. The worst floods occur in the valley of the Gumtī, which rose 37 feet at Jaunpur city in 1871 and 27 feet in 1894, destroying 4,000 houses in the earlier year and over 1,000 in the later, but not causing much loss of life.

Earthquake shocks are occasionally felt, but are not serious. Some damage is recorded to have been caused in 1506 and in 1764, and the earthquake of 1905 destroyed a number of houses in Mussoorie and Dehra.

History.

Stone implements have been found in large numbers in Mirzāpur, Bāndā, and Hamīrpur. A few have been dug up at ancient sites in Benares, Ghāzīpur, Bulandshahr, and Bastī. Those from Bāndā are chiefly hammer-stones of quartzite, basalt, sandstone or diorite, celts of basalt and diorite, and smaller implements made of chert. In Mirzāpur the principal classes are chert flake knives and arrow-heads. Cup-markings on boulders have been observed in Kumaun, and children still cut them in Bundelkhand. On the walls of caves in the southern scarp of the Kaimur Hills, and on rock faces in Bāndā, Allahābād, and Mirzāpur, rude drawings in red oxide of iron have been found, which depict hunting scenes and other subjects, the most interesting being a rhinoceros hunt. In a few places inscriptions of the same kind have been noticed, which apparently belong to a period early in the Christian era. At a few localities in the western Districts—Muttra, Bijnor, Cawnpore, and Unao—copper arrow- and spear-heads are occasionally turned up.

Histories in the European sense were rarely compiled in India before the Muhammadan conquest, and little has been done to extract satisfactory historical material from Sanskrit literature. The Vedic hymns, which were probably composed at least as early as 2000 B.C., show the Aryas still settled west of the Jumna. It has recently been suggested that their move forward commenced about 1000 B.C. The two great epics, the Mahābhārata and Rāmāyana, are of very doubtful historical value; but in these we find Aryan kingdoms established—in the former near Meerut, and in the latter at Ajodhyā. The Mahābhārata describes a contest between two related families, the Pāndavas and the Kauravas, who lived at Hastināpur, now popularly believed to have been in Meerut District. The Pāndava brothers were driven into exile for a time, and wandered in places which cannot be satisfactorily identified, but they married a daughter of the king of PANCHĀLA. Afterwards they ruled near Delhi, which they are said to have founded. Orthodox Hindus place the final struggle between these families a little before the year 3102 B.C., when the present epoch (Kali Yuga) began. European students have suggested the thirteenth or fourteenth century B.C., while an attempt has recently been made to fix the war about 1194 B.C. on astronomical data. The Rāmāyana tells the story of the exile of Rāma Chandra, son of the king of Ajodhyā, who was compelled to wander away into Central India with his wife Sītā and a brother. While they dwelt in the wilds, Sītā was abducted by Rāvana, the demon-king of Ceylon, but was

recovered with the help of Hanumān, lord of the monkeys. The path of the exiles is still traced by pilgrims, and the story is acted and recited every year, while Rāma and Sītā are to Hindus the perfect models of every virtue. These events are placed in an earlier epoch (Tretā Yuga) than the present; and native opinion therefore holds that the Rāmāyana was composed before the Mahābhārata, though European scholars would place it later on the evidence of style and subject. Linguistic researches have lately given rise to the opinion that the so-called Aryas came into these Provinces by different routes and at different times. Thus it seems probable that one wave passed along the foot of the Himālayas and spread southward only when it reached the east of the Provinces and Bihār, the ancient MAGADHA. Another wave passed across the Jumna and down the Doāb, the ancient MADHYA DESA or middle country.

The earliest events which can safely be called historical are connected with the life of Gautama Buddha. The Singhalese traditions place Gautama's death in 543 B.C., while European scholars have suggested various dates between 477 and 370 B.C. It is certain that he spent much of his life in the eastern Districts, and the remains of *stūpas*, monasteries, and other relics testify to the extent to which his doctrines were held in all parts of the Provinces as well as beyond their limits. A suggestion has recently been made that Buddhism was a regular development of religious thought among the people of Magadha, and not merely a revolt against the growth of Brāhmanism in Madhya Desa, as is commonly supposed. As a religious system it appears to have maintained its position till the fourth century A.D., when a revival of Hinduism took place under the Guptas. The accounts of the Chinese pilgrims in the fifth and seventh centuries A.D. show that Buddhism was then fast waning, and the latest memorial of it as a living faith is an inscription of the twelfth or thirteenth century found in Gondā District.

The first point of contact with Western history comes in the fourth century B.C., with Alexander's invasion and the subsequent relations of Seleucus Nicator with Sandrocottus, who is identified with Chandragupta Maurya of the Purānic annals. Chandragupta's kingdom, the first organized empire in India of which we have historic record, extended, after the withdrawal of Seleucus, from the Hindu Kush to the Bay of Bengal, with its capital at Patna. The grandson of Chandragupta was Asoka, the first great Buddhist emperor, whose pious edicts have been found on pillars and rocks in many parts of India. Three of his inscriptions are known in these Provinces, on pillars at ALLAHĀBĀD and BENARES, and on a rock at KĀLSĪ in Dehra Dūn. The last mentions by name the contemporary kings of Syria, Egypt, Macedonia, Cyrene, and Epirus, and thus fixes the date of Asoka's

coronation at 270 or 269 B.C. These inscriptions, and the fragments which have survived from the writings of Megasthenes, the ambassador of Seleucus at the court of Patna, show a highly developed system of government. Outlying provinces were under viceroys, and there were regular grades of officials subordinate to these. The army was carefully organized. Agricultural land yielded one-fourth of its produce, besides rent, to the crown. There were roads with pillars marking the distances, and the capital city was administered by a board of thirty members.

If the chronology of the Purānas is to be accepted, the Mauryan dynasty came to an end about 188 or 178 B.C., and was succeeded by the Sunga, but there is no independent confirmation of this. Numismatic evidence points to the conclusion that about this time parts of at least four kingdoms were included in the Provinces, corresponding to the ancient SŪRASENA (round Muttra), North PANCHĀLA (Rohilkhand), KOSALA (round Ajodhyā), and a tract south of Allahābād which may have been the kingdom of Kosāmbhī. From their coins the kings of Panchāla and Muttra appear to have been Hindus, while the symbols on the coins of Ajodhyā and Kosāmbhī are often Buddhist.

The Chinese chronicles describe the gradual rise in power of the Sakas or Scythians, who spread southward into India about the middle of the second century B.C.; and the coins of Muttra show that they penetrated as far as that place, for the native title of Rājā is replaced by Kshatrapa (Satrap), and names of clearly foreign origin are found. The onward movement of the Sakas had been to some extent involuntary, as they were retreating before the Yueh-chi, a horde divided into several tribes, the most important of which was called Kushan. Controversies still continue about the chronology of the period. Many dated inscriptions of the great Kushan kings—Kanishka, Huvishka, and Bās Deo—have been found at Muttra and elsewhere, but the era is in dispute. The latest theory places the reigns of these kings between A.D. 125 and 225.[1] Little is known of the Kushans. Kanishka is famous in Pāli literature as a liberal patron of Buddhism. The gold coinage of the period is clearly imitated from the Roman *aureus* first introduced by Augustus; and it bears the images of many deities, such as the Sun, Moon, Buddha (rarely), and others whose identity is not clearly established. It seems probable that the Kushans were soon Hinduized. The Greek inscriptions on the coins gradually become unrecognizable, and are replaced by Indian letters.

Early in the fourth century a great Hindu kingdom arose in MAGADHA or Bihār, which, like its Mauryan predecessor, spread far and wide. The third king, Chandra Gupta (I), founded a new era

[1] V. A. Smith in *J.R.A.S.*, 1903, pp. 1 et seq. An older theory, that the era began in 57 B.C., is maintained by Dr. Fleet (*J.R.A.S.*, 1906, p. 979).

commencing in A.D. 320; and his son, Samudra Gupta, carved out an empire from the Sutlej on the west to Central Bengal on the east, and from Oudh on the north to Central India on the south. Nine kings of Northern India, the rulers of Eastern Bengal, twelve kings of the Deccan, and the forest tribes of Central India and Rājputāna owed him allegiance. For 150 years the empire held together, and the period is remarkable for a revival in Hinduism. The language of the Gupta inscriptions is Sanskrit, instead of Prākrit, which was used previously, and the subject-matter, where religious topics are concerned, deals almost exclusively with Hindu ideas. It has been suggested that the revival of Sanskrit literature dates from this period. A description of Northern India between A.D. 400 and 413 is given by the Chinese pilgrim Fa Hian. In these Provinces the people were well off, without poll tax or much official restriction, though land tax was collected. Part of Southern Oudh was forest, and the country north of the Gogra largely deserted.

The Gupta empire appears to have been gradually falling to pieces by the end of the fifth century, decay being hastened by incursions of the Ephthalites or White Huns, another tribe of Central Asian invaders, who penetrated as far as Gwalior and Eran. Petty chiefs rose into power, and among these was a line of rulers calling themselves Maukharīs, who reigned throughout the latter part of the sixth century. The period was one of constant warfare between the Maukharīs, the Huns, the Guptas of the shrunken kingdom of Magadha, and the rulers of Mālwā. The Maukharīs were finally crushed by Silāditya of Mālwā; but in 606 he in turn fell before the armies of Thānesar, in the Punjab, whose ruler was connected by marriage with both the Maukharīs and the Guptas. Harshavardhana of Thānesar became king of Kanauj, and founded an era which was used in Northern India for some time. The splendour of his reign and extent of his power are described by Hiuen Tsiang, who visited India between 629 and 645. Buddhism was fast declining, but still lingered, and was in fact regarded by the king too favourably to suit the Brāhmans, who tried to murder him. Harshavardhana invaded Western India between 633 and 640 and also conquered Nepāl, but was repulsed in an expedition to the Deccan. His appears to have been the first great kingdom of the modern Rājputs, who probably represent the Hinduized descendants of the invaders from Central Asia. Harshavardhana's empire did not last, and historical sources fail almost entirely till the latter half of the ninth century, when Raghuvansi kings were ruling at Kanauj. One of these was conquered in 917 by Indra (III) of Gujarāt, but was restored by Harsha the Chandel, whose clan was rising into importance in BUNDELKHAND. North-west of the Provinces the Tomars were gathering strength in the

Punjab, though they were defeated in 988 by Sabuktagīn of Ghazni. At Kanauj the Tomars succeeded the Raghuvansis, and gave place to the Gaharwārs.

The Provinces had been free from foreign invaders for about four hundred years, when in 1018 Mahmūd of Ghazni crossed the Jumna, and took Bulandshahr, the rich city of Muttra, with its temples full of jewels and gold, and Kanauj. This expedition and two more in 1021 and 1023, directed against Kanauj, Gwalior, and Kālinjar, were mere raids, in which plunder rather than conquest was the aim. Throughout Oudh traditions are numerous about the exploits of Mahmūd's general, Sālār Masūd Ghāzī, who is said to have fallen at Bahraich in 1033, fighting against Suhil Deo, Rājā of Gondā; and although the Muhammadans had got no permanent hold on the country, they left converts behind them. The Ghaznivid rulers gave place to the Ghorids, who gradually overran the Punjab. Muhammad Ghorī failed in 1191 to crush the great Prithwī Rāj of Delhi, who had extended the power of the Chauhāns as far as southern Bundelkhand; but in the next year he was successful, and Prithwī Rāj lost his life with his kingdom. Kutb-ud-dīn, a Turkī slave, was appointed general in Hindustān, and in 1192 captured Meerut, the first town to fall east of the Jumna. Delhi, Kālinjar, Mahobā, and Koil were then taken; and in 1194 Muhammad and his general defeated Jai Chand of Kanauj, and thus broke the last Hindu power of importance. Budaun and Ajodhyā were made the seats of local governors, who had plenty of fighting with their turbulent subjects during the next few years. Bundelkhand had not been subdued, and the first half of the twelfth century was a time of war in most parts of the Provinces. In Southern Oudh the Bhars had risen on the fall of Kanauj; but their chiefs, Dalkī and Malkī or Dal and Bal, were crushed in 1247. Things were quieter under Ghiyas-ud-dīn Balban (1265–87), who was a strict but just ruler, and kept the Provinces at peace, partly no doubt to be free in case the dreaded Mongols should appear on the north-west. The Slave dynasty of Delhi was followed by the Khiljīs; and under the second of this line, Alā-ud-dīn Muhammad, who gained the throne by murdering his uncle on the sands of the Ganges between Karā and Mānikpur in 1295, government was a stern reality. Spies were everywhere; all pensions, grants, and endowments were resumed; Hindus were heavily taxed; the land revenue amounted to half the produce; and an attempt was made to fix prices. Alā-ud-dīn conquered the Deccan and repelled the Mongols; but the harshness which kept internal peace in his lifetime was itself the cause of disruption when his strong personality was removed in 1316. Five years later his debauched son was murdered, and a pretender was beheaded after a reign of a few months. Ghiyās-ud-dīn Tughlak, first of the Turkī line, had been Alā-ud-dīn's general

in the Punjab, and order was soon restored. Under his son, Muhammad bin Tughlak, a reign of terror was revived. Ghiyās-ud-dīn had reduced the land revenue to one-tenth of the gross produce; but it was now increased by new cesses to such an extent that when drought came in 1344 a famine began, which lasted for years, and depopulated the Doāb. In 1351 Fīroz Shāh (III) began a wise and beneficent rule. Taxation was reduced and yet money was available for public works. The town of Jaunpur was founded in this reign, and a large fort was built near Budaun. After the death of Fīroz in 1388 the Delhi kingdom fell to pieces. In 1394 Khwāja Jahān was made governor of Kanauj, Oudh, Karā, and Jaunpur, and assumed independence. For more than eighty years this Sharkī ('eastern') dynasty ruled from JAUNPUR over the greater part of the Provinces, and has left splendid memorials in the mosques erected at the capital city. Tīmūr, the Mongol, took Delhi in 1398, and next year harried the present Meerut Division. The first half of the fifteenth century saw a succession of puppet rulers or usurpers at Delhi or Kanauj, while the Doāb, Rohilkhand, and Bundelkhand were the scenes of risings by the Hindus, and conflicts between the kings of Jaunpur, Delhi, and even Mālwā and Gujarāt. At the end of the period there were independent rulers at Sambhal, Koil or Jalesar, Rāprī, and Kampil or Patiālī. In 1450 or 1451 the Afghān line of Lodī was founded by Bahlol, who started vigorously on the task of crushing the petty local rulers, and breaking the more important power of Jaunpur—a task which took twenty-five years to accomplish.

Early in the sixteenth century the capital was moved from Delhi to Agra, which was to become a great city under the Mongols or Mughals, who now appeared again. In 1526 Bābar defeated the Afghān king, Ibrāhīm, at Pānīpat, but found himself in difficulties at Agra. On the west the Rājputs were united under the Rānā of Udaipur, while on the east the Afghāns were threatening an attack from Kanauj. The crown prince, Humāyūn, made a successful raid as far as Jaunpur and Ghāzīpur, and Bābar gained a great victory over the Rājputs near Fatehpur Sīkri. He was thus able to send troops east to check the Afghāns, who had taken Koil and held the central Doāb. The Mughal forces were, however, unsuccessful, and Bābar had to stop his invasion of Central India and return to their aid. He pressed on to Kanauj, and after defeating his opponents north of the Ganges marched through Oudh and returned to Agra, where he died. When Humāyūn succeeded to his father's kingdom in 1530, he found it imperfectly subjugated and difficult to rule. His first efforts were in Central India; but though he was successful there, a rival was consolidating his resources in Bihār and the east of the Provinces. This was Sher Khān Sūri, who had accepted a command from Bābar, but

now aimed at independence, and refused the offer of Jaunpur. After three years' fighting he gained a complete victory over Humāyūn at Kanauj in 1540 and won the throne of Northern India, with the title of Sher Shāh. He was a great administrator, who made roads, reformed the currency, and laid the foundations of a sound revenue system. In 1545 he was fatally wounded while besieging Kālinjar, and during the next ten years the Sūri power fell to pieces. Humāyūn returned in 1555 and recovered Agra and Delhi, but died in 1556.

Akbar was a boy of thirteen at his father's death, and had to conquer his kingdom before he could rule it. For two years the Punjab kept him busy, but in 1558 he came to Agra and reduced Gwalior. The next year saw the Afghāns defeated in Jaunpur and Benares, but they rebelled again in 1561, and Chunār was not taken till later. In 1565 the lords of Ajodhyā and Jaunpur revolted and took Lucknow, and in 1567 another governor of Jaunpur headed a rising. Apart from these events the Provinces had entered on a period of comparative peace and good government, which was to last for a century and a half. Akbar abolished the pilgrim and poll taxes on Hindus and many vexatious cesses. The land revenue system was still further improved, and assignments of land were examined. In the record of his great survey is found the most complete account of the country at any period before British rule, and the liberal monarch gathered round him poets, musicians, theologians, and great writers. The earliest Christian mission in Northern India was established at his invitation. Magnificent forts were built at Agra and Allahābād; and on a rocky ridge west of Agra, where the saint lived who foretold the long-desired birth of a son to the monarch, a splendid mosque and palace buildings were raised, surrounded by the new town of Fatehpur Sīkri.

In 1605 Akbar died at Agra, and his son succeeded as Jahāngīr. Jahāngīr's son, Khusrū, attempted to seize the throne; but apart from this the reign at first passed peacefully in Northern India, though there was fighting elsewhere. In 1623 Khurram, another son of the emperor, rebelled and advanced towards Muttra, but was driven back to Central India. The next year he advanced through Orissa, while Abdullah Khān, a noble who favoured him, besieged Allahābād. The royal troops forced Abdullah to fall back on Jaunpur and Benares, where he met Khurram, who again retreated to the Deccan. Jahāngīr, like his father, was a great builder, and he raised a noble tomb over Akbar's remains near Agra, and added palaces in the royal forts at Agra and Allahābād. He received with distinction English travellers at his capital and elsewhere.

On Jāhāngir's death at Lahore in 1627, Khurram hastened to Agra and obtained the throne under the name of Shāh Jahān. Early in his

reign the Bundelās, who had been turbulent throughout Akbar's life, but had been friendly to Jahāngīr, broke out and several expeditions were sent against them. In 1639 a raid was made on the Hindu temples which had been built at Benares in the previous reign, and many were destroyed; but the Provinces were generally at peace. The careful system of government started by Sher Shāh, and improved by Akbar, still continued, though deterioration had commenced. The most splendid relic of the reign is the tomb of white marble, built at Agra on the bank of the Jumna by Shāh Jahān in memory of his wife, where the remains of the emperor and his beloved Mumtāz Mahal lie side by side under the most beautiful memorial of a life's devotion that the world has seen. In 1657 Shāh Jahān's health failed, and he was now to be treated by his own sons as he had dealt with his father. The favourite, Dārā Shikoh, was with him and regarded himself as heir; Shujā was in Bengal, Murād Bakhsh at Ahmadābād, and Aurangzeb, the most capable of all, in the Deccan. Dārā seized the treasure at Agra, and sent one army which surprised Shujā near Benares, and another to watch Aurangzeb and Murād Bakhsh, who combined forces and defeated it. The allies then marched on Agra, and were successful in a battle at Sāmogarh.

Aurangzeb entered Agra in 1658 and followed Dārā, who had fled to the Punjab. He formally assumed the throne at Lahore, while Shāh Jahān remained a prisoner in the fort at Agra till his death there in 1666. Shujā's forces took Benares, Chunār, Allahābād, and Jaunpur; and Aurangzeb abandoned the pursuit of Dārā, who had escaped to Sind, and returned to meet them. At a battle between Korā and Khajuhā in Fatehpur District, Aurangzeb won a decisive victory, which practically closed this war of succession. As in the previous reigns, these Provinces enjoyed comparative freedom from war; but the administration was harsh, and the way was being prepared for coming anarchy. At Benares and Muttra mosques were built upon the holiest temples. The poll tax on Hindus was revived; and although, as usual at the beginning of a reign, cesses were formally abolished, the religious zeal of the emperor and his continued absence and absorption in the affairs of the Deccan had bad effects on the administration.

When Aurangzeb died in 1707 he left a will advising his three sons to divide the empire. The second son, Azam, refused to accept the division and fell in battle at Jājau in Agra District, fighting the eldest brother, Muazzam, who became emperor under the title of Shāh Alam Bahādur. Kām Bakhsh, the youngest, died of wounds received near Hyderābād in the following year. The collapse of the Mughal power was at hand. Shāh Alam Bahādur died in 1712, and the approaching disasters became clearer. In less than fifty years eight rulers sat on the throne of Delhi. One of these, Muhammad Shāh, reigned for thirty

years and died a natural death; three were puppets, each reigning for only a few months; three more were murdered while reigning, and one was deposed and blinded. The dissolution of the empire was primarily due to the incompetence of these degenerate rulers; but it was hastened by the repeated attacks of the growing Hindu powers on the west, the north, and the south (the Jāts, Sikhs, and Marāthās), and the paralysing shocks dealt by Persian and Afghān invaders from beyond the north-west frontier.

Before the death of Aurangzeb the Jāts had begun to give trouble west of Agra, and gradually extended their influence within the Provinces. The first incursions of the Sikhs, who had changed from a religious sect to a warrior nation, took place in 1709, when they invaded Sahāranpur and poured into Muzaffarnagar, but were checked there and driven back for a time into the hills.

The most considerable factor was, however, the growth of Marāthā power north of the Vindhyas. The first appearance of Marāthā armies so far from the Deccan, where their influence was already paramount, took place in 1718, when they were invited to Delhi by one of the factions at the court of Farrukh Siyar. They withdrew for a time, but some years later (1729) they appeared again in what is now British Bundelkhand, where the Bundelās had been trying with variable success to throw off the Muhammadan yoke; and this area became subject to Marāthā rule and remained so for more than seventy years. A raid in which Agra and Etāwah were plundered (1737) was repulsed by Saādat Alī, the capable Wazīr of the empire and governor of Oudh, and for a time the Marāthās were held in check. They were, however, invited to return (1751) by Safdar Jang, nephew and successor to Saādat Alī, who required help against the Pathāns of Farrukhābād. The alliance was not lasting, and soon afterwards Safdar Jang found his former friends arrayed against him (1754).

In 1738 Nādir Shāh swept down on Delhi, slaughtering and plundering; and although his stay was short, the blow to the empire was serious. An attempt by his successor, Ahmad Shāh Durrāni (1748), was repelled by Safdar Jang, but the shock caused the death of the emperor, Muhammad Shāh. A second invasion (1752) was more successful, and the Afghāns penetrated, five years later, as far as Agra, though they were unable to take that city.

During the first ten years after the death of Shāh Alam Bahādur the predominant feature of internal politics at Delhi was the struggle at court between the Irānī or Persian party and the Turānīs or people from Central Asia. Two Saiyid brothers, who belonged to the former party, were of great assistance to Farrukh Siyar in his struggle for the throne. The weak-minded emperor was then, however, won over by the Turānīs and lost his life at the hands of the Saiyids (1719). In

1720 one of the brothers was murdered, and the other was defeated soon after.

From this time commences the history of the new states which began to be formed within the Provinces, and became practically independent, though acknowledging the emperor as their nominal lord.

Chief among these was OUDH, which had hitherto been a mere province of the empire. Saādat Alī, a leading member of the Turānī party (though a Persian), was appointed governor of Oudh in 1721, and of Allahābād later; and though his abilities led to his being frequently employed elsewhere, he ruled efficiently through deputies. Safdar Jang, Saādat Alī's nephew and son-in-law, succeeded him, and maintained his position in Oudh, though he had constant fighting with the two Pathān powers of Rohilkhand and Farrukhābād which had grown up on his western borders. Both Saādat Alī and Safdar Jang, in addition to holding the Province of Oudh, were Wazīrs or Ministers of the empire; but in 1754 the emperor Ahmad Shāh deprived Safdar Jang of the latter office, in favour of a new Wazīr, named Ghāzī-ud-dīn.

The Afghāns or Pathāns had first become important in these Provinces under Sher Shāh Sūri, himself a Pathān. The Mughal emperors who succeeded him discouraged them, till Aurangzeb made use of Pathān soldiers in the Deccan. A Bangash Pathān, named Muhammad Khān, who had served as governor of Mālwā and Allahābād, where he had failed to repel the Marāthās (1729), founded the city of FARRUKHĀBĀD near his birthplace, and established a practically independent power in the central Doāb. In 1740 a man of uncertain origin, named Alī Muhammad, who had been consolidating the Rohillas, was formally appointed governor of ROHILKHAND. He quarrelled with Safdar Jang and was banished for a time (1745), but was allowed to return (1748), and increased his influence considerably. When Alī Muhammad died (1749), Safdar Jang laid plots to annex both Rohilkhand and Farrukhābād. His first scheme was to promise Kaim Khān, Nawāb of Farrukhābād, a grant of Rohilkhand, if he could conquer it. The bait was taken, and the Nawāb marched to Budaun and lost his life in battle. Safdar Jang at once annexed Farrukhābād; but Kaim Khān's brother, Ahmad Khān, drove out the governor who had been sent there, and then defeated Safdar Jang, thus acquiring a state which stretched from Alīgarh to Cawnpore. Having failed alone, Safdar Jang called in the Marāthās, and Ahmad Khān fled to Kumaun.

When the third Durrāni invasion took place (1757) the situation was as follows. The infamous Wazīr, Ghāzī-ud-dīn, had blinded and deposed the emperor, Ahmad Shāh, and had set up a new ruler, named Alamgīr (II), whose authority was limited to a small area round Delhi.

the exchange value of the rupee to 1*s*. 4*d*., and then introduce a gold standard (though not necessarily a gold currency) at the rate of Rs. 15 = £1. This policy has been completely successful. From 1899 onwards the value of the rupee has been maintained, with insignificant fluctuations, at the proposed rate of 1*s*. 4*d*.; and consequently since that date three rupees have been equivalent to two rupees before 1873. For the intermediate period, between 1873 and 1899, it is manifestly impossible to adopt any fixed sterling value for a constantly changing rupee. But since 1899, if it is desired to convert rupees into sterling, not only must the final cipher be struck off (as before 1873), but also one-third must be subtracted from the result. Thus Rs. 1,000 = £100 $-\frac{1}{3}$ = (about) £67.

Another matter in connexion with the expression of money statements in terms of rupees requires to be explained. The method of numerical notation in India differs from that which prevails throughout Europe. Large numbers are not punctuated in hundreds of thousands and millions, but in lakhs and crores. A lakh is one hundred thousand (written out as 1,00,000), and a crore is one hundred lakhs or ten millions (written out as 1,00,00,000). Consequently, according to the exchange value of the rupee, a lakh of rupees (Rs. 1,00,000) may be read as the equivalent of £10,000 before 1873, and as the equivalent of (about) £6,667 after 1899; while a crore of rupees (Rs. 1,00,00,000) may similarly be read as the equivalent of £1,000,000 before 1873, and as the equivalent of (about) £666,667 after 1899.

Finally, it should be mentioned that the rupee is divided into 16 annas, a fraction commonly used for many purposes by both natives and Europeans. The anna was formerly reckoned as 1½*d*.; it may now be considered as exactly corresponding to 1*d*. The anna is again subdivided into 12 pies.

The various systems of weights used in India combine uniformity of scale with immense variations in the weight of units. The scale used generally throughout Northern India, and less commonly in Madras and Bombay, may be thus expressed: one maund = 40 seers; one seer = 16 chittaks or 80 tolas. The actual weight of a seer varies greatly from District to District, and even from village to village; but in the standard system the tola is 180 grains Troy (the exact weight of the rupee), and the seer thus weighs 2·057 lb., and the maund 82·28 lb. This standard is used in official reports and throughout the *Gazetteer*.

For calculating retail prices, the universal custom in India is to express them in terms of seers to the rupee. Thus, when prices change, what varies is not the amount of money to be paid for the

same quantity, but the quantity to be obtained for the same amount of money. In other words, prices in India are quantity prices, not money prices. When the figure of quantity goes up, this of course means that the price has gone down, which is at first sight perplexing to an English reader. It may, however, be mentioned that quantity prices are not altogether unknown in England, especially at small shops, where pennyworths of many groceries can be bought. Eggs, likewise, are commonly sold at a varying number for the shilling. If it be desired to convert quantity prices from Indian into English denominations without having recourse to money prices (which would often be misleading), the following scale may be adopted—based upon the assumptions that a seer is exactly 2 lb., and that the value of the rupee remains constant at 1*s.* 4*d.*: 1 seer per rupee = (about) 3 lb. for 2*s.*; 2 seers per rupee = (about) 6 lb. for 2*s.*; and so on.

The name of the unit for square measurement in India generally is the *bīgha*, which varies greatly in different parts of the country. But areas have always been expressed throughout the *Gazetteer* either in square miles or in acres.

MAP

IMPERIAL GAZETTEER OF INDIA

VOLUME XXIV

Travancore State (*Tiruvānkūr*, *Tiruvālumkodi*, 'the abode of the Goddess of Prosperity').—Native State in political relations with the Government of Madras, affairs in it and the adjoining State of Cochin being controlled by the Resident in Travancore and Cochin. It takes its name from Tiruvankod (*Tiruvidāmkodu*) in Eraniel *tāluk*, 30 miles south of the capital, TRIVANDRUM, in ancient times the chief town of a small principality which subsequently grew into the present State. It lies in the extreme south-west of the Indian Peninsula, between 8° 4′ and 10° 21′ N. and 76° 14′ and 77° 37′ E. It is bounded on the north by the State of Cochin and the Madras District of Coimbatore; on the east by the lofty range of the Western Ghāts, beyond which lie the Districts of Coimbatore, Madura, and Tinnevelly, the line of demarcation passing along the summit of the Ghāts; on the south by the Indian Ocean; and on the west by the Arabian Sea. Its frontiers are thus defined by natural features on all sides except the north, where portions of the State of Cochin at several points intervene between it and the sea in the north-west. Its greatest length from north to south is 174 miles, and its greatest width, near the northern boundary, 75 miles. Its breadth is very irregular, gradually diminishing from the north and converging to a point at the southern extremity; the average width is about 40 miles. In shape, the State is triangular, the apex being at CAPE COMORIN. Its area, according to recent measurements, is 7,091 square miles. Of this, more than 2,500 square miles are covered with forests, jungle, and backwaters; and about 2,000 square miles by low chains of hills, a portion of which is available for pasturage.

The State is perhaps the most beautiful and most fertile area in all Southern India. It was thus described by Lieut. Conner in his report on the survey made at the beginning of last century:—

'The face of the country presents considerable diversity, although its general character, except the southern parts, is extremely abrupt and mountainous. The coast, for a short distance along the borders of

the lake[1], is generally flat; retreating from it the surface immediately becomes unequal, roughening into slopes which gradually combine and swell into the mountainous amphitheatre that bounds it on the east, where it falls precipitately, but terminates less abruptly on the south. The collected villages, waving plains, palmyra topes, and extensive cultivation of Nānchānad resemble in every particular the neighbouring province of Tinnevelly, except that it in no measure partakes of its comparatively arid sterility. Approaching northward this fertile plain is succeeded by the woody and rugged surface of the genuine Malayālam; some few champaign tracts enclosed within this ocean of forest relieve the uniformity of the sylvan scene. The extent lining the coast for its whole length presents a fertility so near the sea that it imparts a peculiar character to the landscape. This rich and variegated tract is flanked by a mountainous barrier, and is finely contrasted with the sombre magnificence and desolate solitude of those wilds of which the elephant seems the natural master; and though the landscape may be too much made up of this wild scenery, it boasts of many striking localities and peculiar beauties, if not of the sublime, at least romantic and picturesque kinds. The eye is arrested by the wild, rocky, precipitous acclivities and fantastic forms assumed by the mountains in the more southern parts; but proceeding north the bold and elevated contour of the Alpine tract is less sharply defined; a few rugged cliffs and spiry points or conical summits alone breaking through the sameness of its rounded and sombre outline. This Apennine dissolves into clustering hills and romantic inequalities, at whose feet wind innumerable valleys, presenting (particularly in the middle parts) the most delightful landscapes whose natural beauties are embellished and diversified by the prospect of churches and pagodas. Indeed, the endless succession of houses and gardens scattered in picturesque order over the face of the country gives it entirely a different appearance from the other coast, the nudity of whose plains is unfavourably contrasted with the robe of florid and exuberant vegetation that for a great part of the year clothes Malayālam. The areca and coco-nut everywhere fringe those picturesque and sequestered glens, which gradually expand into the extensive plantations and cultivated lands that skirt the sea and lake. This space is enlivened and fertilized by innumerable rivers and pastoral streams, whose borders are crowned with groves and cultivation that, everywhere, following their winding course, present a unique, interesting, and charming scenery, infinitely more diversified than most other parts of the Peninsula and one that would indicate abundance. This is especially the case in Kuttanād; the watery flatness of this fertile fen is relieved by the gardens and habitations so thickly strewn over its surface, which exhibits a network of rivers meandering through the verdure they create.'

Physical aspects.

It has been truly remarked that 'it will be difficult to name another land which, within so narrow limits, combines so many, so varied,

[1] That is, the line of backwaters referred to below.

and such precious natural blessings.' 'Where the land is capable of culture,' it has also been said, 'there is no denser population. Where it is occupied by jungle, or backwater, or lagoon, there is no more fairy landscape.'

The mountainous character of Travancore is due to the WESTERN GHĀTS, which flank it on the eastern side, and reach their highest elevation in the north-east of ANAIMUDI PEAK, 8,837 feet above the sea, the numerous heights clustering round this part being often termed the High Range. South of this group are the CARDAMOM HILLS and PĪRMED, where the land spreads out in a plateau of considerable width with hills running up to about 5,000 feet. For the rest of its length the range consists of a ridge at an elevation of about 4,000 feet, with isolated peaks, of which Agastyamalai and the Mahendragiri are the most important. From the main range of the Ghāts rocky spurs run out towards the west, in some cases to within a short distance of the sea. From Quilon southwards these secondary ranges soften down into undulating slopes, intersected by glens and valleys, which grow wider as the elevation of the hills decreases, and are very productive.

Owing to the mountainous character of so large a portion of the country, its rivers and streams are very numerous. They have generally a very winding course, and they empty themselves either into the backwaters referred to below or directly into the sea. A dozen principal rivers with their tributaries and ramifications intersect the country in all directions. The largest of them is the Periyār ('big river'), which is 142 miles in length. This rises in the Sivagiri forests, 60 miles south of Devikolam on the High Range, at an elevation of over 3,000 feet. From here it runs north, but inclining towards the west, until it reaches a point close under that range. Thence it turns to the west and plunges down between immense cliffs of rock, and after a long north-westerly course reaches Alwaye, where it divides into two branches, that to the north falling into the sea at Pallipuram and the other to the south emptying itself into the backwaters west of Ernākulam. The upper waters of this great river have been utilized by the PERIYĀR PROJECT for irrigation in the Madura District of Madras.

An interesting chain of lakes or backwaters extends along the coast from the northernmost frontier to Trivandrum. These are either expansions of the rivers at their mouths, or extensive sheets of water receiving the accumulated flow of several rivers and streams. They are separated from the sea by a bar of sand from 7 miles to about half a mile in width, but the rivers have several outlets by which they disgorge themselves into the sea. The flood-tides also flow over the bars into them and cause them to rise about 2 feet. These backwaters, of which there are more than a dozen, their total area aggregating 157½ square miles, are connected together by navigable canals,

the whole forming a water communication extending to a length of 200 miles. The largest of these are those of Kāyankulam and the Vembanād. The latter is 32 miles long and 9 miles broad, covering an area of 79 square miles. A few fresh-water lakes exist in the State, the two largest being at Vellāni near Trivandrum and Sāsthānkotta near Quilon.

Only the southern and western parts of the State have been geologically surveyed. The Ghāts consist of old crystalline rocks, which are splendidly displayed in the south. The lowest sedimentary rock is a grey fossiliferous limestone found round about Quilon, which is the only one of the kind yet known in the Presidency. From the fossils it contains, it appears to be of eocene age. Resting upon it is a series of variegated sands and clays, underlaid by carbonaceous clays or shales and lignites and capped by laterite, which is known as the Warkalli (VARKKALLAI) series from the village of that name not far from Quilon. There they form a line of cliffs on the sea face extending along the coast for a distance of 22 miles. Petrologically, they resemble the Cuddalore sandstones, and their colouring is often very beautiful. The laterite of Travancore, which occurs largely in a belt of country extending along the coast for many miles, is twofold in character. In places it is a superficial rock formed by the decomposition of the gneissic rocks; in others it is a true laterite formed of débris washed down from higher levels. The latter is typically developed in the neighbourhood of Kottayam, where it is largely used as a building material. Along the coast are white sand-dunes and areas of red sand or *teri*. These last stand high, though close to the coast, and are a well-known landmark for mariners. Westward of Cape Comorin are a few fringing reefs of dead coral. A phenomenon which has given rise to no small discussion is the remarkable mud-bank lying in the sea 6 miles south of ALLEPPEY. This is about 4 miles long by 1½ wide, and is affected by tidal action. It operates in a remarkable way to prevent the formation of waves; the soft oily mud mingles with the sea-water when the heavy ocean waves touch the bank, and so smothers their crests that the water inside the bank is quite smooth and forms an admirable anchorage. The supply of mud is supposed to be renewed by being forced out below the banks by the weight of the water in the flooded backwaters and streams of the mainland. Another curious point about this anchorage is that the amount of fresh water brought down by the streams and falling in the heavy rains of this coast is so great that it lies on the surface of the heavier sea-water to a considerable depth, and sailors can obtain drinking-water by letting down a bucket from the side of their ship into the sea around them.

The great differences which occur in the altitude of the State have naturally resulted in a large variation in its flora. Generally speaking,

the majority of its plants are those which love a warm and exceedingly damp climate. In the upper ranges of the Ghāts is found the heavy evergreen forest, and the principal trees here are referred to in the account of the Forests below. The low country is conspicuous for the masses of areca and coco-nut palms which abound in it, and another prominent tree is the glossy-leaved jack. In the rains every hollow is filled with a luxuriant tangle of vegetation, and ferns and mosses grow in profusion on every bank and wall.

The mountains and vast forests of Travancore afford admirable cover for large game. Elephants are numerous. Tigers, leopards, bears, bison (*gaur*), the Nīlgiri ibex, *sāmbar* and other kinds of deer abound. Snipe, duck, and teal are plentiful in the low country, and otters are often seen in the backwaters.

Along the coast the climate is equable and damp. The temperature seldom falls below 70° and hardly ever rises above 90°. At the foot of the hills the variations range to 5° or 6° on either side of these temperatures. On the hills the thermometer naturally varies with the altitude. On the High Range the climate is that of a temperate region, the thermometer falling to 50° or 60° in the daytime, and frosts at night being known in the winter months.

The rainfall is heavy. The greatest quantity, brought by the south-west monsoon, falls between May and August. Towards the end of October the north-east monsoon asserts itself, but the rain it brings is lighter on the low country than on the hills in the north-east, where it descends in sudden and very heavy showers. The Trivandrum Observatory is the only place in Travancore where accurate observations of meteorological phenomena have been made over any considerable period. They may be taken, however, as fairly representative of a wide area. The annual rainfall there averages 58 inches. On the Pīrmed hills the fall is about 200 inches.

History.

Of the early history of the State but little is known. Tradition says that it formed part of the ancient kingdom of Kerala, and that in the early centuries of the Christian era the whole of the west coast was ruled by a succession of chiefs who each held office for twelve years. About the first half of the ninth century A.D., Cheramān Perumāl, the last of these, is said to have divided his country among his relations, one of whom received the southern portion of Travancore, and then to have gone on a pilgrimage to Mecca. It seems fairly certain that during the latter half of the eleventh century the State was conquered by the CHOLAS, but about a century later the local kings recovered their lost possessions. During the middle of the thirteenth century the south-eastern portion of the State was invaded by the PANDYAS of Madura, who had then reasserted their independence of the waning Cholas. By the beginning of the

next century, however, the local kings once more regained power. Achyuta Rāya, the Hindu king of Vijayanagar, and Sadāsiva, his successor, invaded the State in 1534 and 1544. After the battle of Tālikotā, in 1565, in which this dynasty was crushed by the united Muhammadans of the Deccan, the State appears to have become feudatory to the Naik kings of Madura. At this time it seems to have been a congeries of petty chiefships, each of which claimed pre-eminence over the rest. In the first half of the eighteenth century, however, most of them were subdued by Mārtānda Varma, who may justly be called the maker of modern Travancore. He had his troops disciplined in the European fashion by a Flemish officer named De Lannoy (whose tomb may yet be seen in the ruined chapel of Udayagiri fort in south Travancore), he strengthened the fortifications of the country, improved its revenue administration, adorned it with palaces and temples, and increased its opportunities of commerce. In all his undertakings he was assisted by an able minister named Rāma Ayyan Dalawa, and both king and minister are even now the subjects of many popular anecdotes. Rāma Ayyan was also commander-in-chief of the king's army. Foremost among his military exploits was the conquest and annexation of the three principalities of KĀYANKULAM, AMBALAPULAI, and CHANGANĀCHERI. The consolidation of the conquered territories, the suppression of internal dissensions, and the establishment of peace and order formed his life-work. The organization of a commercial department for the development of trade, the introduction of an excise system, and the preparation, for the first time, of a consolidated statement regulating expenditure by the revenue were the most prominent of his labours as minister. Several of his measures and rules are still in force, and are popularly referred to as the *sattam* ('rule') of Rāma Ayyan Dalawa.

Mārtānda Varma was succeeded by Rāma Varma, who followed in his footsteps. He succeeded in subduing the remaining chiefs, and in 1761 constructed the historic Travancore Lines, stretching in an almost straight line from the shore of the Cochin backwater opposite the ancient town of Crānganūr to the foot of the Ghāts, to protect his State against the incursions of Haidar Alī, who had about this time usurped the sovereign authority in Mysore. Haidar threatened Travancore twice: in 1766 and again in 1776. But on both these occasions his plans were thwarted by the Dutch, who stood between him and the State. In 1778 the Rājā granted a free passage through his territories to the British troops sent to attack the French settlement of Mahé, then much valued by Haidar as the base of his military supplies. He had already treated with contempt Haidar's proposals to become his vassal, and had openly avowed himself the friend of the British, whom he actively joined in their campaign against the Muhammadan ruler. In

consideration of these services, he was expressly named in the Treaty of Mangalore concluded with Tipū, the son and successor of Haidar, in 1784, as the friend and ally of the British. Threatened by Tipū in 1788 the Rājā entered into an agreement with the British, by which he allowed two battalions of sepoys to be stationed on his frontier at his own expense. Just then Tipū, claiming the forts of Ayakotta and Crānganūr, which had recently been purchased by the Rājā from the Dutch, invaded Travancore (1789). He was utterly defeated and narrowly escaped being slain in the encounter. In the following year Tipū renewed the attack, and cruelly devastated the northern portion of the country. But hearing that the British had in consequence declared war against him, he beat a hasty retreat towards Pālghāt; and on the conclusion of the war, in 1792, he was compelled to restore all that he had wrested from Travancore. In 1795 the Rājā entered into a fresh treaty with the British, by which he engaged to pay an annual subsidy adequate to maintain three battalions of sepoys, with European artillery, in return for protection against all aggressors by sea or land. The Rājā also bound himself not to enter into any agreement with any European or Indian States without the previous consent of the British Government, nor to grant the former any settlements in his country, and to assist the British, whenever required, with his troops, who would be maintained at their cost. Three years after the conclusion of this treaty, the Rājā died. He had been ably assisted throughout the latter part of his career by Dīwān Rājā Kesava Dās, who is even now popularly remembered in the State as the great Dīwān. The Rājā was succeeded by his nephew, Rājā Bāla Rāma Varma. This prince was a weak ruler, and intrigue began. On the disbanding of the Nāyar battalions in 1804, an insurrection was raised to subvert British influence in the councils of the Rājā. It was easily suppressed by the subsidiary force from Quilon, and immediate measures were taken to prevent its repetition in future. A treaty was concluded in the following year (1805), by which the Rājā was relieved of his old obligation to furnish military aid, but was required instead to pay annually, in addition to the former subsidy of 8 lakhs of rupees, a sum adequate to maintain one more native regiment, and to bear an equitable proportion of the expense of a larger force, when necessary. He moreover bound himself to allow the British Government to assume the direct management of the State in case of non-payment; to pay at all times the utmost attention to the advice of the British Government; to hold no communication with any foreign State; and to admit no European foreigner into his service, or to allow him to remain within his territories without the previous sanction of the British Government. In 1809 the Dīwān, Velu Tampi Dalawa, in conjunction with the chief minister of the Cochin State, raised an insurrection and attempted to murder the Resident, Major

Macaulay. The outbreak was easily suppressed and the Rājā was required to defray the expenses incurred. These were but tardily discharged; and the British Government was about to assume the internal administration of the country, as the only means of ensuring a satisfactory settlement, when the Rājā died in 1810.

He was succeeded by Lakshmī Rānī, who confided the administration of the State to Col. J. Munro, the Resident; and from that date Travancore commenced a fresh career of peace, progress, and prosperity. The Rānī died in 1815, and her sister, Pārvatī Rānī, became regent till Rāma Varma, Lakshmī Rānī's eldest son, attained his majority in 1829. During his reign of seventeen years from that date, a series of administrative reforms were undertaken. He was succeeded by his younger brother, Mārtānda Varma, in 1846. The latter was followed in 1860 by his nephew, Rāma Varma, who received in 1862 from Earl Canning, then Governor-General of India, a *sanad* granting to him and his successors the right of adoption on failure of natural heirs[1]. He died in 1880 and was succeeded by his brother, also called Rāma Varma, who in 1885 was succeeded by the present Mahārājā, His Highness Sir Srī Rāma Varma, G.C.S.I. The State maintains a military force (part of which is known as the Nāyar Brigade) of 61 cavalry, 1,442 infantry, and 6 guns, and the Mahārājā is entitled to a personal salute of 21 guns.

Systematic researches in the field of archaeology have yet to be undertaken in the State. Some barrows have been discovered in the mountainous parts of north Travancore. They consist of three rude low pillars with a conical laterite cover, and are locally called Pāndukulis, that is, 'pits of the Pāndavas.' Two remarkable earthworks are also to be seen in Todupulai *tāluk* in the north-west. In the low hill-ranges, mounds of earth laid along the ridges are frequently met with, and also stone cromlechs with slabs planted in the middle of them, containing inscriptions. Roman *aurei* and other coins of the early emperors have been dug up. In 1896 a State archaeological department was organized, and through its agency inscriptions are being collected and deciphered. Most of these occur in the ancient temples with which the country abounds.

Population.

The population of the State was 2,311,379 in 1875, 2,401,158 in 1881, 2,557,736 in 1891, and 2,952,157 in 1901. It contains nine towns and 3,885 villages. Six per cent. of the people live in the former. The towns have on an average 20,426 inhabitants and the villages 712. The density of population is

[1] The laws which govern succession are peculiar, descent being traced in the female line, according to the prevalent usage on the West Coast. Any failure in the direct female descent requires the adoption of two or more females from the immediate relations of the family, all of whom are assigned a distinguished rank and enjoy many privileges, as alone entitled to give heirs to the State. Owing to failure of natural heirs, two girls have recently been adopted, with the sanction of the British Government.

as high as 416 persons per square mile. Hindus in 1901 numbered 2,035,615 (68·9 per cent. of the total); Christians, 697,387 (23·6 per cent.); Muhammadans, 190,566 (6·4 per cent.); Animists, 28,183 (0·9 per cent.); and 'others,' 401. Malayālam is the language of more than four-fifths of the population. As many as 192 castes have been returned. Of these the Nāyars, the old military class, are the most numerous, aggregating 520,941, or 25 per cent. of the total Hindu population. Among them, as also among some of the lower castes, succession is traced through the female line; and marriage is a social compact, dissolvable at the will of either party. The next largest castes are the Iluvans or Tīyans (491,774, or 24 per cent.), the Pulayans (field labourers, 206,503, or 10 per cent.), and the Shānāns (toddy-drawers, 155,864, or 7 per cent.). The Paraiyans, the Kuravans, and the Asāris number between 50,000 and 100,000; and the Vellālas, the Brāhmans, the Mārāns, and the Kollans between 20,000 and 50,000. The most important class of Brāhmans is that of the Nambūdris, who affect extreme conservatism and ceremonial purity. Twelve other castes are each more than 10,000 strong. Of the Christians returned, 534 are Europeans. Sixty per cent. of the entire population depend upon agriculture in one form or other for their means of subsistence.

Christians are more than usually numerous. The Syrian Church is the oldest in the State, and is believed to have been founded in the very early centuries of the Christian era[1]. The Catholic mission, which comes next, may be said to date from 1330, when Pope John XXII deputed Friar Jordanus to be Bishop of Columbum (Quilon). The chief Protestant missions are the London Missionary Society and the Church Missionary Society, founded in 1806 and 1816 respectively. Of the total number of Christians, Roman Catholics number 377,500, Syrians 227,670, and Protestants 92,217.

The collection and record of vital statistics was begun throughout the State in August, 1905, but the system has not yet reached a high state of efficiency. The birth-rate in 1903–4 was returned at 18·6 per 1,000 of the population, and the death-rate at 14·5 per 1,000. The majority of deaths were due to fevers.

Agriculture.

The soil of the country differs in different localities. That along the coast is fine whitish sand, with a mixture of calcareous clay as a lower stratum, combined with vegetable matter; that in the lower parts of the valleys consists generally of a brownish-coloured clay, often porous and permeable and, in some places, stiff and hard to work; and that in the upper lands reposes on a basis of laterite, which frequently appears superficially in large masses.

[1] For details see *The Syrian Church in India*, by the Rev. G. Milne Rae (1892).

As the revenue settlement now proceeding has not yet been finished, no accurate agricultural statistics are available. The principal food-grain grown is rice, the area cultivated with it being about 940 square miles. The main source of agricultural wealth is, however, the coco-nut palm. The crops next in importance are pepper, areca-nut, jack-fruit, and tapioca, the two last forming considerable items in the diet of the poorer classes. On the hills are grown cardamoms, coffee, and tea, the last being the most important.

Buffaloes and bullocks are used for ploughing. The agricultural stock is, however, very poor, and cattle-breeding is not conducted on any considerable scale. The climate is probably too wet to allow animals to thrive well.

Though the extent of rice cultivation is large, the amount grown is not sufficient for the needs of the dense population. Large quantities are therefore imported. Famine, however, of the nature and extent experienced elsewhere in India is unknown. Garden cultivation is the mainstay of the people, and it is only when the gardens fail to yield their annual produce that scarcity begins to prevail. Failure of the rice crops tells, of course, adversely on the population of the locality affected; but its operation is usually limited to particular areas, and with the remission of taxes and other help from the State, and with the proceeds of their garden produce, the people are able to buy imported rice and in a manner tide over adverse seasons.

From an irrigation point of view, the country contains two distinct divisions. In north Travancore, with its numerous rivers and water-courses, the irrigation works are chiefly intended to protect the cultivation against floods and from the influx of saline water through the communications with the sea. South Travancore, on the other hand, with its comparatively small number of rivers, frequently suffers from scarcity of water. The rainfall has therefore to be stored and distributed in these areas. In very ancient times a dam was built across the Paralayār and a well-devised system of irrigation was organized. Though this has done much good, agricultural depression has been not infrequent. In order, therefore, to secure an efficient water-supply a project for damming up the waters of another river, the Kodayār, is now under execution. The supply so obtained is expected to irrigate an area of about 23,000 acres already cultivated, and also to bring under cultivation a fresh area of between 50,000 and 60,000 acres.

Forests, &c.

The forest area, which is confined to the eastern parts of the country, comprises nearly one-half its total extent. The growth may be divided into four different classes: (1) heavy moist forests of ever-green trees, confined to the slopes of the Ghāts and to perhaps about one-third of the upper hill plateau; (2) land originally covered with moist forest, but now overspread with scrub of various

ages; (3) deciduous forest, with grass growing under the trees, which covers the ridges and higher ground and a part of the hill plateau; and (4) rock and land covered with short grass. This last class is of no utility as far as timber is concerned. The second class contains no timber of any value except *vaga* (*Albizzia procera*). In the moist forests, the trees grow very close together and exhibit an extraordinary variety of species. Among the most important are ebony (*Diospyros Ebenum*), *kambagam* (*Hopea parviflora*), *anjili* (*Artocarpus hirsuta*), jack (*A. integrifolia*), and white cedar (*Dysoxylum malabaricum*). The deciduous forests are the most valuable; and here grow the trees for which Travancore is famous, such as teak (*Tectona grandis*), black-wood (*Dalbergia latifolia*), sandal-wood (*Santalum album*), *irūl* (*Xylia dolabriformis*), *vengai* (*Pterocarpus Marsupium*), and *tembāvu* (*Terminalia tomentosa*). The finest teak in Travancore is found on hills of an elevation of from 1,000 to 2,000 feet. About the beginning of the last century, a tree is said to have been felled in the Idiyara valley which measured 7 feet in diameter at its base and 26 inches in diameter at 70 feet from its butt, giving 900 cubic feet of timber. In the Trivandrum Museum, there is a plank sawn from a tree felled in the same valley which is 4 feet $3\frac{1}{2}$ inches across. The trees felled in the forests are transported by land in south Travancore, and in the north are floated down the rivers. The major portion of the timber felled is exported to foreign places. Pondicherry and Tuticorin and the country north and east of Madura take large supplies, chiefly of *vengai*, *kambagam*, and *tembāvu*. Most of the teak and black-wood goes to Cochin, and is thence exported to Bombay and other parts. White cedar is largely used for manufacturing casks for the export of coco-nut oil to Europe. The more common woods are sent across to Arabia. The total value of the timber exported in 1903-4 was Rs. 3,79,000. In the same year the receipts from the forests amounted to Rs. 6,75,000, and the expenditure to Rs. 4,73,000. The total area of 'reserved' forests was 2,153 square miles, and of land proposed for reservation 239 square miles. An area of 1,900 square miles was under protection against fire. Teak, sandal-wood, and other valuable trees are being artificially reproduced, the extent opened up for teak cultivation being about 2,000 acres. Attempts are also being made to grow exotics, such as camphor, rubber, &c.

The Forest department is under a Conservator; and four divisions, each under a Deputy or Assistant Conservator, are subdivided into ranges, each under a ranger.

The mineral resources of the country have yet to be explored and ascertained. Plumbago is the only mineral now worked to any extent. The first systematic attempt at mining it was made in 1892. Three mines are now being worked, two in the Nedumangād and one in the

Neyyāttinkara *tāluk*, the total output amounting to 20,000 tons, of which 18,000 tons are obtained from the Vellanād mines in Nedumangād. Mica of a superior quality is also found in several parts of the country.

Arts and manufactures.

Cotton-weaving and the making of matting from coir (the fibre of the coco-nut) are the chief industries. Cotton cloths of many kinds are woven in south Travancore and sold locally. The coir mats and yarn are exported. Coarse gunny-bags are also made to some extent.

There were, in 1903–4, thirteen factories in the State: three at Quilon and ten at Alleppey. Of these, three make coir matting, one manufactures coir fibre, three are oil-mills, one is a cotton-spinning factory; and in five miscellaneous work, such as the pressing of coir, fibre, and yarn, tile-making, carpentry, &c., is carried on. Besides these, thirty tea and coffee factories were worked on the High Range. Steam power was in exclusive use in eleven of these concerns. The total number of hands employed averaged 4,863; and their daily wages ranged from 1 anna 8 pies to 11 annas 2 pies. Among the arts practised should be mentioned the carving of ivory, which has long been under the direct patronage and encouragement of the rulers of the State, and examples of which won a medal at the Delhi Exhibition of 1903. Efforts are being successfully made, also, to establish an industry in the weaving of plantain fibre.

Commerce and trade.

Trade has greatly expanded of late. The value of the external trade (imports and exports) averaged 170 lakhs during the decade ending 1890 and 240 lakhs during the next decade, showing an increase of 43 per cent. In 1903–4 the exports formed 65 per cent. and the imports 35 per cent. of the total. Of the external commerce, 86 per cent. was with British India, 9 per cent. with Ceylon, 2 per cent. with the United Kingdom, and 3 per cent. with other countries. Taking the trade routes, 37 per cent. of the trade was carried on by sea, 45 by backwater, and 18 by land. Most of the backwater trade may, however, be regarded as sea-borne trade, as it consists of goods carried to Cochin for shipment by sea. The chief centres of commerce are Kolachel, Quilon, and Alleppey on the coast, and Kottār, Kāyankulam, Changanācheri, and Alwaye inland. The principal trading communities are the Musalmāns, Ila Vāniyans, Syrian Christians, Chettis, Vellālas, and Brāhmans, the last three of whom do most of the banking business. The chief exports are the products of the coco-nut tree: namely, copra (dried kernels), coir, fibre, and coco-nut oil and nuts; and these represent more than 50 per cent. of the total. After them come pepper, tea, jaggery (coarse sugar), areca-nuts, dry ginger, salted fish, timber, hides, tamarinds, and coffee. The chief imports are tobacco, rice, piece-goods, cotton, and thread.

Till 1865, Travancore had its own import and export tariffs. In that year an Interportal Convention was entered into with the British Government, under which duties may be charged only upon tobacco, salt, opium, and spirits manufactured or produced in British territory and thence imported into Travancore, and on salt, opium, and spirits produced or manufactured in Travancore and imported into British territory. With the same exceptions as were arranged with the British Government, free import is allowed from Cochin to Travancore and vice versa. On foreign goods, Travancore adopts the British Indian tariff rates, except in the case of tobacco. As regards exports, it retains its own tariff, but its policy has been to keep the rates low.

Communications.

Travancore is well provided with means of communication. The total length of roads maintained by the department of Public Works in 1903-4 was 3,026 miles, exclusive of 'traces' 376 miles in length. The chief lines are the trunk roads radiating from Trivandrum to the northern frontier, via Kottārakara, Changanācheri, Kottayam, and Mūvattupula (155 miles); to the southern frontier, via Nāgercoil (53 miles); to the eastern frontier, via Shencottah (65 miles); and to Quilon on the coast (45 miles). Among the more important roads are those leading from Changanācheri and Kottayam, via Pīrmed to the Kumili frontier and thence to Ammayanāyakkanūr in Madura (about 145 miles); from Quilon to Shencottah (60 miles); and from Munnar on the High Range to Bodimettu on the Madura side of the frontier (21 miles) and to Chinnar on the Coimbatore side (40 miles). Connected with one another by numerous cross-lines, these roads form a network of communications covering almost the whole country. Where the steepness of the ground or other causes have made it difficult to open cart-roads, bridle-paths have been cut or are under construction, of which the most important are those connecting the High Range with the low country on the south and with the coast on the west. Hardly an estate on the hills is not connected with cart-roads by bridle-paths.

The facility of communication which the north and central portions of Travancore enjoy lies, however, in the possession of a natural system of backwaters, besides canals and rivers navigable for country boats. The backwaters consist of a series of lagoons running parallel to the coast, separated from it by a strip of land from half a mile to 7 miles in breadth, and artificially connected with each other wherever they may not be continuous. About 200 miles of navigable canals and backwaters are maintained by the Public Works department.

Two lines of railway intersect the country: the Cochin-Shoranūr Railway in the north-west, and the Tinnevelly-Quilon Railway passing through the heart of the State. The length of the former line within Travancore is about 18 miles, and that of the latter about 58 miles.

The State provided the cost of the construction of the latter through its territory, amounting to 108 lakhs.

Travancore has its own postal (*anchal*) system, working side by side with the British post offices. The two systems have no connexion with one another, and additional charges have to be paid on communications, parcels, &c., transferred from the one to the other. Thus articles posted outside Travancore and transferred from any British post office within Travancore for delivery through the *anchal* are charged at prepaid rates, and those posted in any British office within Travancore and transferred to the *anchal* are charged at double rates. Originally, the *anchal* was maintained exclusively for the service of the State. In 1860 it was thrown open to the public, and the system of levying postage on letters and parcels was introduced. In 1903-4 the number of *anchal* offices was 150 and the number of letter-boxes 179; the length of mail communications was 928 miles; and about 4,884,000 covers, private and official, passed through all the offices. The *hundi* or money-order system has recently been introduced, on the lines in force in the British Post Office. In 1903-4, 67,300 orders were issued and 66,800 paid, the receipts and payments amounting to Rs. 9,83,100 and Rs. 9,82,700 respectively.

The actual receipts of the Anchal department amounted during the official year 1903-4 to Rs. 77,000 or, including the sum chargeable on official covers, to Rs. 2,92,000. The cost of the establishment was Rs. 1,00,000. The State has its own postage stamps and cards. They are of the following descriptions: stamps of the value of 8 cash (3 pies), 12 cash (5 pies), 1 chakram (6·7 pies), 2 chakrams, and 4 chakrams; covers for 1, 2, 3, and 4 chakrams; wrappers for 6 cash ($2\frac{1}{2}$ pies); and cards for 4 cash ($1\frac{3}{5}$ pies).

Famine may be said to be unknown in Travancore, though, as has been already mentioned, bad seasons occasionally cause small and local distress.

Administration.

For general administrative purposes the State is divided into 31 *tāluks*, grouped into four divisions or districts: namely, Padmanābhapuram (five *tāluks*), Trivandrum (four), Quilon (eleven), and Kottayam (eleven). The average area of a division is 1,773 square miles and the average population 738,039. A *tāluk* averages 229 square miles in extent and contains 92,255 persons; but, owing chiefly to diversity of physical features, the range of variation in these figures is very wide. For purposes of revenue collection, the *tāluks* are further subdivided into smaller areas called *provertis*, each under a paid officer styled the *provertikāran*.

Each division is provided over by a Dīwān Peshkār and District magistrate, answering to the Collector-Magistrate of a British District. A *tahsīldār*, who is usually a second-class magistrate, is in charge of

each *tāluk*. The Peshkārs form a superintending and checking agency, and are responsible for the proper and regular administration of the *tāluks* comprising their charge. In addition to the four Peshkār magistrates, there are two other District magistrates, one being the Commercial Agent at Alleppey and the other the Superintendent of the Cardamom Hills.

The chief branches of the administration, besides the Revenue and Executive, are the Judicial, Survey and Settlement, Public Works, Anchal, Forest, Medical, Sanitary, and Educational. Their jurisdictions differ and are often not conterminous with the revenue divisions noticed above. Their organization and the rules and regulations laying down the general lines of their working are mainly after the British model.

The administration of the State is conducted in the name and under the authority of His Highness the Mahārājā by the Dīwān or prime minister. A Popular Assembly, consisting of non-official gentlemen nominated by the Government to represent the various *tāluks* and towns and the planting interest, has recently been constituted to assist in ascertaining public opinion upon administrative questions.

Legislation and justice.

The laws of the State are known as Regulations, and till recently they were framed by the Dīwān and passed by the Mahārājā. In order to secure for legislative measures the necessary guarantee of full discussion and mature deliberation, a Legislative Council was established in 1888 under a Regulation defining its constitution and working. It now consists of eight members, of whom three are non-officials, with the Dīwān as the *ex-officio* president. The maximum strength of the Council is fixed at fifteen, of whom not less than two-fifths must be selected from outside the State service. Every legal measure is first introduced in the Council and printed in the Government Gazette for criticism by the public. After being considered and passed by the Council, it is submitted to the Mahārājā for approval and to the Madras Government for sanction, and becomes law only when it has received the assent of both. In cases necessitating immediate legislation, a Regulation may be passed without the intervention of the Council, but its operation is limited to a period of six months. The scope of this Council does not include the relations of the State with the British Government, the extradition of criminals, European British subjects, seaports, post office, telegraphs, railways, &c. Since the establishment of the Council, 58 Regulations have been brought into existence and have served to remodel the laws of the country on principles suited to present local conditions.

The present judicial machinery of the State, which is the outcome of the administrative measures of nearly three-quarters of a century,

consists of twenty-five courts exercising civil, and sixty-four courts exercising criminal jurisdiction, all of which are subject to a High Court at Trivandrum. The lowest civil court is that of the Munsif (there are twenty of these), and its ordinary jurisdiction extends to suits up to Rs. 1,000 in value. Five Zila or District courts are located at the towns of Nāgercoil, Trivandrum, Quilon, Alleppey, and Parūr, which hear appeals from the decisions of Munsifs and try suits exceeding Rs. 1,000 in value, and also all suits to which the Government is a party. The High Court, which is the final appellate authority, consists of a Chief Justice and three Puisne Judges, one of whom is usually a European. It has no original jurisdiction, and hears appeals in suits of the value of Rs. 2,500 and under through a division bench of two Judges, and appeals of above that value through a full bench of three Judges. In the latter class of cases, the decisions have to be approved by the Mahārājā.

For the administration of criminal justice there are five Sessions courts, which exercise original jurisdiction in Sessions cases and hear appeals from the six District magistrates, and seven first-class, thirty-nine second-class, and seven third-class magistrates. The High Court hears only appeals; and all sentences of death or imprisonment for life passed by a Sessions court and confirmed by it have to be submitted for the approval of the Mahārājā. Besides these courts, there are special magistrates, who are European British subjects and Justices of the Peace, for the trial of Europeans. These justices have powers to sentence up to three months' imprisonment and Rs. 1,000 fine. Appeals from them lie to the European Judge of the local High Court. The British Resident is also a Justice of the Peace with the powers of a Sessions Judge over European British subjects, and appeals from him lie to the High Court of Judicature at Madras. Europeans are within the jurisdiction of the ordinary courts in regard to all civil matters and also in cases of contempt.

Crime in the State does not present any features worthy of special note. The inhabitants are very peaceable and law-abiding, and the acute distress which is generally an incentive to crime is comparatively unknown. The usual offences are petty thefts and assaults. The *tāluks* bordering on the Tinnevelly frontier near and about the Aramboli pass are occasionally subject to the raids of Maravan robbers, but the sense of security within the country itself is proverbial and people generally prefer to travel during the night. Civil litigation, however, is fostered to some extent by the minute subdivision of property and the peculiar system of inheritance.

A separate department exists for the registration of deeds, which is controlled by a Director. The State is for this purpose divided into three districts with a District Registrar for each, and subdivided

into 51 registry offices each under a sub-registrar. The average area and population served by each registry office are 139 square miles and 57,885 persons respectively. In 1903-4 the number of documents registered was 180,361, of which 97 per cent. related to immovable property. The average value of each document was Rs. 220.

Finance.

The total revenue increased from an average of Rs. 69,01,050 during the decade ending 1890 to Rs. 89,88,900 during the next decade, or by 30 per cent. In 1903-4 the total revenue was Rs. 1,02,01,900. The decennial averages for the main heads of revenue are shown in the following table, together with the actual receipts in the last official year:—

Main sources of revenue.	Average for		Receipts in 1903-4.
	1881-90.	1891-1900.	
	Rs.	Rs.	Rs.
Land revenue	17,98,255	21,28,314	22,97,488
Salt	15,09,017	19,55,300	19,27,837
Customs	5,03,388	6,86,865	8,92,444
Tobacco	8,46,874	10,11,845	12,32,594
Abkāri and opium	3,46,602	6,32,572	8,41,413
Cardamoms, timber, and other forest produce	5,73,441	6,67,100	7,83,094
Stamps	1,84,140	3,59,034	4,49,674

A considerable increase has occurred under all the items, but it has been brought about without the imposition of additional burdens on the people. Indeed, during the last half-century more than a hundred miscellaneous taxes and cesses have been abolished; the land tax has been reduced in several areas; inequalities in the public burdens have been removed by the withdrawal of special demands, such as succession duties, &c., which pressed on certain classes of the population; the State monopolies in pepper, tobacco, and cardamoms have been abandoned; trade has been freed from fiscal restrictions; and industries have been promoted by the remission of the export duties on many articles and by liberal reductions on others. As a consequence, the State revenues have nearly trebled during this period.

With this enormous growth in the revenue, the expenditure has more than kept pace. The average expenditure increased from 66·4 lakhs during the decade ending 1890 to 88·1 lakhs during the next decade, or by 32 per cent. The percentage of expenditure on income was 96 in the former, and 98 in the latter period. During the two years ending 1903 the expenditure outstripped the income by more than 12 lakhs, and the actual expenditure in 1903-4 amounted to 106 lakhs. This steady increase in expenditure has been in directions calculated to promote the best interests of the people, as the following table shows:—

Main items of expenditure.	Average for		Expenditure in 1903-4.
	1881-90.	1891-1900.	
	Rs.	Rs.	Rs.
Law and justice, including police and jails	4,96,885	7,11,665	8,18,440
Education	2,31,137	3,90,431	6,63,345
Medical institutions, including vaccination and sanitation	1,53,547	3,13,006	4,10,018
Public works	10,64,837	18,59,476	26,83,081

The financial policy of the State, however, has always been so to adjust expenditure to income as to leave a small surplus from year to year, a policy which the steady expansion of the revenues has made it possible to carry out, even after fully meeting the growing requirements of progressive administration. The amounts thus saved aggregate 90 lakhs, of which 60½ lakhs are invested in Government of India and other securities, bringing in an interest of Rs. 2,60,000. This reserve fund is now being utilized in the execution of a few important public works, and will be drawn on still further should the current finances incline towards an equilibrium between income and expenditure.

The State has its own currency, the coins being minted in the State mint at Trivandrum. The coins current are silver pieces of 2 chakrams (1 anna 1·47 pies of British Indian currency); 4 chakrams, called the fanam; quarter of a rupee, valued at 7 chakrams (3 annas 11·16 pies); and half a rupee, valued at 14 chakrams; and copper pieces of 1 cash (0·42 of a pie); 4 cash; 8 cash; and 1 chakram, valued at 16 cash. There is, however, no rupee coin, the Travancore rupee being valued at 28 chakrams (15 annas 8·63 pies), and the British rupee being thus equivalent to 28 chakrams 8 cash. The silver coins of British India circulate freely throughout the State.

Land revenue.

The system of land tenures is of a peculiarly complicated nature. It is *ryotwāri* in principle, the settlement being made directly with individual ryots; but while some lands are subject to full assessment, others pay only a nominal rate, and others again enjoy complete exemption. The numerous tenures fall under two major heads—*janmam* and *sarkār*. The *janmam* lands are of three kinds: those which are absolutely exempt from tax, the normal condition of *janmam* lands; those which are tax free so long as they remain with the original proprietors, but become liable to tax when they are transferred to other hands; and those subject *ab initio* to a light quit-rent. The *sarkār* lands are of more than sixty varieties. Some of these are freehold and enjoy absolute exemption from tax, others are favourably assessed, and the rest fully assessed. The chief varieties of *sarkār* lands are (1) *kuttagapāttom*, a tenure applied only to isolated tracts, such as the Palliport farm and the Pulienturuttu lands,

which are leased to individual ryots for comparatively short periods; (2) *vempāttom*, the most prevalent and the simplest of the tenures, under which the land pays full assessment; (3) *otti*, which is in the nature of a mortgage, the parties to the transaction being the State on the one side and the ryot holding the land on the other, the consideration being either actual cash borrowed by the State or something equivalent to it, and interest being allowed on these loans and deducted from the full assessment; and (4) *vritti* tenures, or service *ināms*.

The administration of the land revenue is based on the settlements of 1802 and 1836. According to these, the average assessment per acre on 'wet' lands amounts to Rs. 2, and on garden lands to Rs. 1-2-8. To remedy the defects and imperfections of previous settlements, a comprehensive scheme of revenue survey and settlement was introduced in 1883. The survey has been almost completed. Eight *tāluks* have been settled, and have yielded an increase in revenue amounting to over Rs. 1,20,000. The incidence of the assessment per acre is Rs. 4 on 'wet' land, and about R. 1 on garden and 'dry' land.

Miscellaneous revenue.

By the Interportal Convention of 1865, the State agreed to give up all import duties on British Indian produce, with the exception of tobacco, salt, opium, and spirits, but claimed, in the form of a guarantee or drawback, the revenues realized in British Indian ports on foreign produce re-exported to Travancore. The State also agreed to lower its export duty to 5 per cent. *ad valorem* on all articles except pepper, dried betel-nuts, and timber, and to reduce the duty on tobacco to the extent of Rs. 1,00,000 a year.

The salt consumed in the country is partly made within it, but mostly procured from Bombay. At three places in south Travancore —Tamarakulam, Rājakkamangalam, and Variyūr—salt is manufactured in State pans, the manufacturers being paid R. 0-1-8 per maund ($82\frac{2}{7}$ lb.) of salt delivered into the State stores. The Bombay salt is delivered by contractors, engaged by public auction, at the Travancore ports of Munambam, Alleppey, Quilon, and Trivandrum. From these it is conveyed to various *bankshalls* (warehouses) distributed over the country. There are sixty-seven of these *bankshalls*, and salt is sold at them to the public at uniform rates, which are slightly higher in the case of the Bombay product than in that of the locally made salt. The present duty is Rs. 1-8 per maund, and the selling price is placed somewhat higher to cover the cost of establishment, transport, &c. Under the Interportal Convention with the British Government, the duty on salt is enhanced or reduced in accordance with the British Indian rates.

About 26,000 tons of salt are consumed per annum. Of this, 20,000 tons come from Bombay, and the rest is the home product.

The gross revenue on account of salt in 1903-4 was Rs. 19,28,000. Deducting the charge for establishment, &c., the net revenue amounted to Rs. 14,63,000.

In two of the four divisions in the State, Kottayam and Quilon, the supply of alcoholic liquor is worked under the farming system, while in Padmanābhapuram and Trivandrum the excise system has lately been introduced. In the farming tracts the police exercise the necessary powers of detection, &c., while in the excise tracts the *ābkāri* officers perform this duty. Three *tāluks* of the Trivandrum Division are supplied with toddy arrack procured through a contractor from north Travancore and Cochin, while the remaining *tāluks* of the two excise divisions are supplied with jaggery arrack manufactured by a contractor at his distillery at Nāgercoil. Still-head duties on the different kinds of liquor are levied by the State. The import and sale of European liquor are also regulated by law. Licences are issued for the sale of this on payment of fees of Rs. 50 and Rs. 30 for wholesale and retail vend respectively. The gross *ābkāri* revenue in 1903-4 was Rs. 7,86,000, and the expenditure was Rs. 22,000.

The right to sell opium is leased for terms of three years. The contractor procures his supply from the Government storehouse at Madras, after paying the requisite price and duty into the British Resident's treasury and obtaining the necessary passes for its transport. No separate establishment is maintained for collecting the revenue. The contract includes the right of selling *bhang*.

Jaffna, Coimbatore, and Tinnevelly tobaccos are consumed in the State. The tobacco when imported is bonded by the importers in official warehouses, which are six in number and located at Kottār, Trivandrum, Quilon, Alleppey, Mūvattupula, and Alwaye. When it is removed from these buildings, a uniform duty of Rs. 90 per candy is paid to the State, irrespective of quality. In 1903-4 the gross revenue from tobacco amounted to Rs. 12,32,000. Deducting charges, the net revenue was Rs. 11,81,000.

Till 1894 the sanitation and conservancy of urban and rural areas were attended to by the local revenue and magisterial officers. Since then the urban areas—Trivandrum, Nāgercoil, Quilon, Alleppey, and Kottayam—have been placed under town improvement committees, analogous to the municipal councils of British India, composed of official and non-official members with a president as the executive head, all nominated by the State. A separate Regulation guides their working. The expenses are met out of the State revenues and no municipal taxes are as yet levied. In 1903-4 about Rs. 55,000 was spent on the five towns. The sanitation of rural areas is attended to by a separate Sanitary department, organized in 1895, and placed under the charge of a Sanitary Commissioner. The general appearance of the towns and

the health of the country have perceptibly improved since the introduction of these measures.

Public works.

For the execution of public works there are two departments: the Public Works department proper under the Chief Engineer, and the Marāmat ('repairs') department under the general administrative officers. All works of importance requiring considerable scientific knowledge are entrusted to the former, while the charge of works connected with palaces, temples, and rest-houses, the construction of village roads, ordinary tank repairs, and the distribution of water for irrigation in south Travancore, rest with the latter. The Marāmat department was organized in 1833 and the Public Works in 1860. In 1900–1 the total outlay amounted to 22·3 lakhs, or 23 per cent. of the State revenue, 17·39 lakhs being spent by the Public Works and 4·9 lakhs by the Marāmat department. In 1903–4 the proportion of the total revenue devoted to public works was 26 per cent. During the last twenty years, numerous works of public utility have been constructed, such as the Women and Children's Hospital, the Central jail, the Leper and the Lunatic Asylums, the Girls' College, the Female Normal School, the Industrial School of Arts, the golf grounds, the Banqueting Hall, the Victoria Jubilee Hall, the public library, all at Trivandrum; and, outside it, the District courts at Parūr, Alleppey, and Nāgercoil; Munsifs' courts, *tāluk* and other public offices, several hospitals, police stations, &c. Many rivers—the Parappār, Vāmanapuram, Tiruvattār, Palayār, &c.—have been bridged, and several miles of new road opened. Under miscellaneous engineering works may be mentioned the installation of gaslight at the capital, and the reconstruction and extension of the pier at Alleppey.

Army.

The State maintains a small force of artillery for saluting purposes, a body-guard for the Mahārājā of 61 mounted men, and the Nayār Brigade of infantry. The last consists of 1,442 men officered from the Indian Army and divided into two battalions, of which one is armed with breech-loading carbines, and the other, which is chiefly employed on guard duties, with breech-loading muskets.

Police and jails.

The present police force was organized in 1881; before that the Dīwān Peshkārs or divisional officers, the *tahsīldārs*, and sub-magistrates exercised police functions. The department is under the control and management of a Superintendent, and there are three police divisions, each in charge of an Assistant Superintendent. Exclusive of these officers, the force numbered 1,743 men in 1903–4. Of these, 318 were employed in the reserve, as jail guards and so forth, so that 1,425 men were engaged in purely police duties. They worked under 44 inspectors, and occupied 65 police stations and 118 sub-stations. The propor-

tion of the effective strength to area and population was 1 to every 4·9 square miles and 2,071 persons. The average cost per policeman was Rs. 136 per annum. There are no rural police, as in British Districts.

Three prisons are maintained in the State: the Central jail at the capital, under a Superintendent; and two District jails, one at Quilon and the other at Alleppey, under the District magistrates. A jail is also attached to the District courts of Nāgercoil and Parūr for lodging under-trial prisoners and civil debtors. The Central jail contained in 1903–4 an average daily number of 438 prisoners. The cost of maintaining each prisoner was Rs. 106 per annum, or, if the value of convict labour is taken into account, Rs. 69.

Education.

At the Census of 1901 it was found that 12·4 per cent. of the population (21·5 males and 3·1 females) were able to read and write, a very high proportion compared with most other parts of India. The history of the education of the people by State agencies dates back to 1834, when an English free school was opened at Trivandrum, which afterwards developed into the present Arts college. Shortly afterwards, schools were started in the chief out-stations to serve as feeders to the free school. In 1866 a system of State vernacular education was organized, and now every year sees the opening of new schools and an increased number of boys and girls brought under instruction. In 1890–1 there were 2,418 institutions of all classes and grades, with 104,616 pupils. By the end of the next decade, the numbers had increased by more than one-half. Of the total of 3,727 institutions returned in 1903–4, 439 were State schools, 1,040 private aided, and 2,248 private unaided. The pupils under instruction in these three classes of institutions numbered respectively 51,169 (26 per cent. of the total), 59,430 (30 per cent.), and 86,786 (44 per cent.). Of the total number of institutions, 3,525 were primary, 169 secondary, and 28 training or special schools, besides 6 colleges. Classified by sex, the pupils numbered 151,053 boys (77 per cent. of the total) and 46,332 girls (23 per cent.); grouped by religion, 63 per cent. were Hindus, 32 per cent. Christians, and 5 per cent. Muhammadans. The most noticeable feature in the educational statistics of recent years is the great advance made in female education. With the spread of institutions for their instruction, the number of girl pupils more than trebled during the decade ending 1890, and more than doubled during the next decade. In 1903–4 female education was provided for in 2 Arts colleges, 3 English high schools, 1 vernacular high school, 7 English middle schools, 33 vernacular middle schools, and 138 vernacular primary schools. Education is free in all these institutions. Another feature in the educational history of the State is the effort made to bring the backward classes and the hill tribes under instruc-

tion, by the opening of special schools and the sanction of increased grants, &c. In 1903–4 about 44,000 of these people were under instruction in 480 public schools. Five institutions situated on the hills are mainly intended for the hill tribes. The part played by the missionary bodies in the diffusion of education among all classes, and among the depressed in particular, is very considerable.

The total expenditure on education amounted in 1903–4 to 6·6 lakhs, of which about 1·3 lakhs was derived from fees, &c. Of this total, 27·4 per cent. was devoted to primary schools.

The State maintains two Arts colleges at Trivandrum, one for boys, teaching up to the B.A. standard, and the other for girls, teaching up to the F.A. standard; and also a law college. In addition, three private colleges—the Scott Christian College at Nāgercoil, the Holy Angels' Convent College at Trivandrum, and the Church Missionary Society's College at Kottayam—teach up to the F.A. standard. Of the six training schools, two are maintained by the State: one for male, and the other for female teachers. There are twelve special schools: the Sanskrit College, the Industrial School of Arts, and the Reformatory, all at Trivandrum and under State management; eight aided schools, the Srī Mūla Rāma Varma Technical Institute at Nāgercoil, two schools for carpentry at Mulakumūd and Attingal, and also two schools in these places for teaching girls lace-making, the Native Technical Institute at Trivandrum, the Rāma Varma Technical and Industrial School at Changanācheri, and the Church Missionary Society's Industrial School at Kottayam; and one private (unaided) institution, the technical school for carpentry at Takkalai. The work in the State Industrial School comprises two branches: industry, including lacquer-work, carpet-weaving, carving, &c.; and art, comprising drawing, design, and painting. The school holds a prominent position among those of Southern India. At the recent Delhi Exhibition, Travancore ivory-carving won a gold medal. The extraction of fibre from plantains and the weaving of cloth and turbans promise to be the source of a large and profitable industry, though further improvements are still required.

For purposes of administrative management and inspection, the State is divided into three educational ranges, each under an Inspector in direct correspondence with the Dīwān. The vernacular and the English schools, which till 1894 were under separate officers, have all been placed under the Inspectors, excepting the chief State institutions at the capital. A textbook committee selects or arranges for the preparation of suitable textbooks.

For many years the only newspaper in Travancore was an English journal published at Nāgercoil, which was started under mission auspices. Of late, the development of the press has been very rapid; and there were in 1900–1 twelve vernacular papers and magazines, and

three English newspapers. By 1903-4 the numbers had increased to nineteen and five respectively. The vernacular papers have an average circulation of 850 copies, ranging from 2,500 to 225. One of them deals with social, one with educational, six with religious, and eleven with general and political topics.

Medical.

Travancore is liberally supplied with hospitals and dispensaries. Taking the State and aided institutions together, there is one to every 25,896 of the population and to every 62 square miles of the total area, or every 21 square miles of the occupied area. The State institutions comprise 22 hospitals and 30 dispensaries, with accommodation for 1,215 in-patients. In 1903-4, 15,700 in-patients and 608,000 out-patients were treated at them, 26,700 operations were performed, and the expenditure was Rs. 2,73,000.

The missionary bodies also administer relief to the sick at their chief centres. Foremost among the State institutions are the General Hospital, opened in 1865, which contains accommodation for 104 in-patients; the Taikkād Hospital, with 130 beds, founded in the third decade of the last century; the Women and Children's Hospital, with 35 beds, under a qualified lady doctor; and the Maternity Hospital, with 42 beds—all these being located at Trivandrum. The Victoria Jubilee Hospital at Quilon contains 22 beds. The State further maintains at the capital two special institutions, one for lunatics and another for lepers. In 1903-4, 164 patients were treated in the former and 243 in the latter. The whole Medical department is under the charge of an officer of the Indian Medical Service, who is also Physician to the Mahārājā and is styled the Darbār Physician. At a veterinary hospital at Trivandrum 224 animals were treated in 1903-4.

Vaccination is carried on by the Sanitary department, with a staff of 80 vaccinators, including eight women. A vaccine dépôt is established at the capital, where calf-lymph is prepared under the direction of a specially trained medical graduate and distributed to the several stations. Vaccination is not compulsory, but the number of operations performed in 1903-4 was 150,000 or 50 per 1,000 of the population.

[*Census Reports* of 1891 and 1901; V. Nagam Aiya, *Travancore State Manual*, 3 vols. (Trivandrum, 1906).]

Trevandrum.—Town in Travancore State, Madras. *See* TRIVANDRUM.

Tribenī Canal.—A protective work now under construction in Champāran District, Bengal. The sanctioned estimate provides for 61 miles of main canal, with 250 miles of distributaries. The canal will derive its supply from the Gandak river and will run eastwards along the northern boundary of the District, serving an area of about 450 square miles; it is expected eventually to irrigate 125 square miles

of rice and 47 square miles of *rabi* crops. The estimated cost, including indirect charges, is 51½ lakhs.

Tribenī Village ('Three streams').—Village in the head-quarters subdivision of Hooghly District, Bengal, situated in 22° 59′ N. and 88° 26′ E., and now included within the Bānsbāria municipality and connected with Magrā by a branch of the Bengal Provincial Railway. It derives its name from its situation at the junction of the Ganges or Hooghly, the Saraswatī, and the Jamunā. The last-named stream flows into the Hooghly on its left bank, opposite the southern extremity of an extensive island in the middle of the river facing Tribenī. North of the Saraswatī is the Tribenī *ghāt*, a magnificent flight of steps attributed to Mukund Deo, the last of the Gajapati kings of Orissa, 1559-68. South of the *ghāt* lies the village of Tribenī, which is considered to possess great sanctity. The Rev. Mr. Long, in an article in the *Calcutta Review* published many years ago, says that Tribenī was one of the four great centres of Hindu learning, the others being Nabadwīp, Sāntipur, and Guptipāra. Tribenī formerly contained over thirty Sanskrit schools and it was also once noted for its trade.

South of Tribenī village stands a famous mosque, built with materials obtained from an older Hindu temple, which contains the tomb of Jafar Khān, described by the late Professor Blochmann in the *Journal of the Asiatic Society of Bengal*, vol. xxxix, part i, for 1870, p. 282. The principal Hindu festivals held at Tribenī are the following: Makara Sankrānti or Uttarāyan, the day on which the sun enters Capricorn, takes place in January on the last day of the Hindu month of Paus and the first day of the succeeding month of Māgh. The great bathing festival on Sāgar Island is held at this time, and a *mela* or fair at Tribenī, which is attended by about 8,000 persons; Bisuva Sankrāntī, held in honour of the Sun at the time of the vernal equinox, falling in February; Bāruni, the great bathing festival of Bengal, in honour of Varuna, the god of the waters, held in February or March; Dasaharā, held in June, in commemoration of the descent of the goddess Gangā from heaven, to save the souls of the 60,000 sons of king Sagar, who were reduced to ashes for the crime of assaulting a Brāhman sage; Kārtik Pūjā, held in November, in honour of Kārtikeya, son of the goddess Durgā. All these gatherings form occasions for trade.

Trichendoor.—Town in Tinnevelly District, Madras. *See* TIRUCHENDŪR.

Trichengode.—*Tāluk* and town in Salem District, Madras. *See* TIRUCHENGODU.

Trichinopoly District.—An inland District in the south of the Madras Presidency, lying between 10° 16′ and 11° 32′ N. and 78° 8′ and 79° 30′ E., with an area of 3,632 square miles. It takes its name

from the famous city which is its administrative head-quarters. The word is popularly derived from Trisirāppalli, meaning the town of Trisira ('the three-headed'), a *rākshasa*, or demon, the brother of Rāvana, the villain of the Rāmāyana, who is said to have ruled the place. The District is bounded on the east by Tanjore, the dividing line for some distance being the Coleroon river; on the north by South Arcot and Salem; on the west by Coimbatore and Madura; and on the south by the State of Pudukkottai.

Physical aspects.

A small rambling range of hills called the PACHAIMALAIS ('green hills'), which extend into Salem District, lies in the north-western corner; and towards the southern and south-western borders the country is broken up by rocky hills covered for the most part with scrub jungle. But elsewhere the general character of the District is an undulating plain, divided east and west by the valley of the Cauvery and dotted here and there with small hills, of which the great rock fort in Trichinopoly city, the neighbouring Golden Rock near the Central jail, and Ratnagiri near Kulittalai are the principal examples.

The CAUVERY is one of the chief natural features of the District. It runs across the centre from west to east, and at the holy island of Srīrangam splits into two branches, of which the one retains the original name of Cauvery and the other is called the Coleroon. These are the most important rivers in the District, and receive the greater part of its drainage. In the north, a small area drains into the VELLĀR, which forms the northern boundary for some distance.

The eastern half of the more northern of the two portions into which Trichinopoly is divided by the alluvial valley of the Cauvery is occupied by sedimentary deposits; the western by Archaean gneisses and granites, mostly hornblendic. The southern of these two portions is formed of Archaean rocks, granites and gneisses, overlaid in the south-east corner of the Trichinopoly *tāluk* by a thin bed of conglomeratic laterite, which has been carved by local denudation into a number of patches forming miniature plateaux. Crystalline limestone occurs in several places north and south of the Cauvery, the prevailing colours being light grey, white, pink (of great beauty), and bluish. Two great and generally rich beds of magnetic iron lie at the southern end of the Pachaimalais. Neither the limestone nor the iron has been worked, though the quantity available is large. The oldest of the sedimentary deposits referred to above are representatives of the Upper Gondwāna or Rājmahāl system, a formation remarkable for containing great quantities of plant remains of Jurassic age. The so-called 'plant-beds' near Uttattūr in the Perambalūr *tāluk* contain numbers of these fossil plants. Their age is considered to be intermediate between the Rājmahāl beds proper and the Jubbulpore group of the Indian Jurassic

rocks. An irregular area nearly 400 square miles in extent, lying between the Cauvery and the Vellār, is occupied by Cretaceous rocks, the fossils in which have excited much interest among scientists. The most noteworthy of the Cretaceous deposits are the coral-reef limestones near Uttattūr and the shell limestone of Garudamangalam, a very fine hard bluish-grey rock, in parts translucent and largely made up of beautifully preserved gasteropoda and lamellibranchiata, often retaining their original polish and sometimes their peculiar coloration. This is the so-called Trichinopoly marble, and is much valued for decorative purposes. Resting on the uppermost Cretaceous rocks on the eastern side of the District is an unfossiliferous gritty sandstone, very frequently ferruginous, which covers the greater part of the Udaiyārpālaiyam *tāluk*, and is itself very largely overlaid with red sands. In the lateritic sands near Nanniyūr, two palaeolithic implements have been found, one sharp-pointed, and the other oval. To the north of the same village is a bed of true flints, said to be unique in Southern India.

The flora of the District presents no points of interest, resembling closely that of the other areas along the eastern side of the Peninsula. The growth on the Pachaimalais is of the drier deciduous type, characterized by the abundance of *Zizyphus* and *Terminalia*.

Leopards and bears are occasionally found in and about the Pachaimalais, but there is no other large game in the District. Snipe, teal, and duck are, however, plentiful.

The Pachaimalai hills are malarious, but elsewhere the climate is on the whole unusually dry and, perhaps on this account, healthy for both natives and Europeans. It is also more than usually hot. The annual mean temperature at Trichinopoly itself (84°) is higher than at any head-quarters town in the Presidency except Tinnevelly, Cuddapah, and Nellore.

The annual rainfall in the District as a whole averages 34 inches, of which 16 are received during the north-east monsoon, 12 during the south-west monsoon, and 5 in April and May. The fall in the northern *tāluks*, especially in Udaiyārpālaiyam and Perambalūr in the north-east corner, is heavier than in the south, averaging 39 inches against 31 in the latter. Few natural calamities have taken place. Cyclones occur but rarely. The country is not especially liable to scarcity, as the Cauvery and Coleroon, on which the greater portion of the irrigated lands are dependent, seldom fail. The chief danger to which the people are exposed is from the floods in these two rivers. These, especially when accompanied by heavy local rainfall, are apt to breach the embankments on either side of the river-beds and cause severe damage to crops. The banks are being gradually strengthened throughout.

History.

The history of Trichinopoly goes back far into antiquity. The capital of the CHOLA kings, who are mentioned in the Asoka inscriptions of the third century B.C., and by Ptolemy in the second century A.D., was originally at Uraiyūr, now a suburb of Trichinopoly city, and in the eleventh century at GANGAIKONDAPURAM in the Udaiyārpālaiyam *tāluk*. The ruins of a splendid temple and tank are still standing at the latter place. About the middle of the thirteenth century the District passed under the Hoysala Ballālas of Dorasamudra and soon afterwards under the PĀNDYAS of Madura, who, in spite of occasional interruptions, continued in possession of it till the beginning of the fourteenth century, when it was overrun by the Muhammadans under Malik Kāfūr, the general of Alā-ud-dīn Khiljī of Delhi. About 1372 it became part of the rising Hindu empire of Vijayanagar, and during the sixteenth century, after the downfall of that dynasty, passed into the hands of the Naik rulers of MADURA. Viswanātha, the founder of this line, is said to have built the greater part of the fort and town of Trichinopoly; and about the middle of the seventeenth century Chokkanātha, another of the line, removed his capital from Madura to Trichinopoly and erected there the building known as the Nawāb's Palace—using, it is said, a great deal of the material of the celebrated palace built at Madura by his famous grandfather, Tirumala Naik.

The last of the Naik rulers died childless in 1731, and the subsequent disputes as to succession were taken advantage of by the Nawāb of Arcot. Chanda Sāhib, his Dīwān, seized Trichinopoly and treacherously imprisoned queen Mīnākshi, one of the claimants. She poisoned herself; and her rivals called in the Marāthās, who took Trichinopoly in 1741 and appointed Morāri Rao, the adventurous Marāthā ruler of Gooty, governor over the town. Two years later the Nizām-ul-mulk, Sūbahdār of the Deccan, invaded the Carnatic and Trichinopoly surrendered to him. He appointed Anwar-ud-dīn as Nawāb of the Carnatic in 1744, and from that date Trichinopoly passed under the nominal rule of the Nawābs of Arcot. During the Wars of the Carnatic, between 1749 and 1761, the famous rock fortress of Trichinopoly underwent more than one siege. On the first occasion (in 1751), Muhammad Alī, the son of Anwar-ud-dīn, and his allies the English were besieged by Chanda Sāhib, an aspirant to the Nawābship of the Carnatic, and his supporters the French. A number of engagements took place between the two parties, chiefly on the Srīrangam island and in the villages bordering on the old road from Trichinopoly to Madras, Clive taking a conspicuous part in the operations; and in the end Chanda Sāhib and the French were defeated.

The second siege occurred in 1753. Nanjarāj, the general of the Mysore army which had been helping the English and Muhammad Alī

in the previous operations, claimed Trichinopoly as his reward, alleging that it had been promised him by a secret treaty with Muhammad Alī. His claim being disregarded, he laid siege to the place and attempted to reduce it by famine. Major Lawrence came to its relief. The French had meanwhile been greatly strengthened by reinforcements sent by Dupleix, and quitting Srīrangam they crossed the Cauvery and encamped on the plain close by the present Fakīr's Rock. Here they were attacked by Lawrence and defeated in the engagement which the historian Orme calls the battle of the Golden Rock. Lawrence proceeded to Tanjore to obtain reinforcements from the Marāthās. On his return he found that the French had blockaded the city on every side. He provoked them to a general engagement and defeated them again at the battle of the Sugar-loaf Rock (now called the Golden Rock), not far from the present Central jail.

When war broke out again in 1756, the French under D'Auteuil once again tried to take Trichinopoly. The vigilance of Captain Calliaud, who hurried to its relief by forced marches from Madura, frustrated their designs. Their last attempt upon the Rock was in 1759, when a detachment sent by Lally occupied Srīrangam. Lally's defeat at Wandiwāsh upset his plans; and the fall of Pondicherry early in 1761, which established the success of the British arms in Southern India, and the Treaty of Paris in 1763, which recognized Muhammad Alī as Nawāb of the Carnatic and placed Trichinopoly under his government, ended the conflict between the two nations. In 1768 Haidar Alī of Mysore devastated the District, and on the renewal of the war in 1780 he invested its capital. His defeat at Porto Novo in the succeeding year compelled him to withdraw. The only other attempt upon the fort was made by his son and successor Tipū in 1790, but it ended in nothing.

In 1781 the Nawāb assigned the revenues of the Carnatic, including Trichinopoly, to the British; and civil officers, known as Superintendents of the Assigned Revenue, were for the first time appointed to administer them. In 1792 the assignment was surrendered to the Nawāb, but Trichinopoly continued to be commanded by British officers. In 1801 it was ceded to the British, with the rest of the Carnatic, by the Nawāb of Arcot.

Prehistoric kistvaens occur in the Perambalūr *tāluk*, in one of which, opened in 1897, were found pieces of human bones, a small polished earthen pot 6 inches in diameter, and the point of an iron sword. Some Roman coins have also been discovered. Buddhist images of stone exist in the Udaiyārpālaiyam, Kulittalai, Perambalūr, and Trichinopoly *tāluks*. The District is supposed to have been situated at the tri-junction of the territories of the Pāndya, Chola, and Kongu dynasties; and tradition places one of their boundaries in the extreme

west along the river Karaipottānār (the name means 'the river that marks the boundary'), which falls into the Cauvery about 12 miles to the west of Musiri, and along a large earthen embankment which continues the line of the river southwards into the Kulittalai *tāluk* on the other side of the Cauvery. The hamlet of Palayasengadam in this *tāluk* is locally declared to have once been a Chola capital, the name being said to be a contraction of Palaya Jeyamkondacholapuram, or 'the old town of the victorious Chola.' An extensive ruined camp close by and a very perfect and well-constructed stone tank are pointed out in support of the tradition. The later Jeyamkondacholapuram is in the Udaiyārpālaiyam *tāluk*.

Of the temples of archaeological interest the most important are those on the Trichinopoly Rock and at Srīrangam (and Jambukeswaram), Gangaikondapuram, and Samayapuram, while the most notable piece of civil architecture is the palace of the *zamīndār* of Udaiyārpālaiyam.

Population.

The District comprises 937 towns and villages. The population in 1871 was 1,200,408; in 1881, 1,215,033; in 1891, 1,372,717; and in 1901, 1,444,770. The increase during these thirty-six years has been at about the same rate as in the rest of the Presidency, namely between one-fifth and one-fourth, and Trichinopoly is now one of the half-dozen most densely peopled Districts in Madras. The very small advance between 1871 and 1881 was due to the great famine of 1876–8. The District is divided into the five *tāluks* of KULITTALAI, MUSIRI, PERAMBALŪR, TRICHINOPOLY, and UDAIYĀRPĀLAIYAM, statistical particulars of which in 1901 are appended:—

Tāluk.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Udaiyārpālaiyam	753	2	228	300,708	399	+ 3·5	14,384
Perambalūr	674	...	128	204,257	303	+ 4·7	8,022
Musiri	762	1	156	294,383	386	+ 4·2	14,347
Kulittalai	901	...	229	263,331	292	+ 8·1	11,931
Trichinopoly	542	2	191	382,091	705	+ 5·9	46,843
District total	3,632	5	932	1,444,770	398	+ 5·2	95,527

The head-quarters of the first of these are at Jeyamkondacholapuram, while those of the others are at the places from which they are named. The chief towns are the municipalities of TRICHINOPOLY (population, 104,721) and SRĪRANGAM (23,039), and the Unions of TURAIYUR (12,870), UDAIYĀRPĀLAIYAM (7,553), and ARIYALŪR (7,370).

Out of every 100 of the people, 92 are Hindus, 3 are Musalmāns, and

5 are Christians. These last increased during the decade ending 1901 considerably faster than the population generally. Tamil is the prevailing vernacular, being spoken by 84 per cent. of the population, but 12 per cent. speak Telugu (in the Musiri *tāluk* the percentage is as high as 21), and 2 per cent. Kanarese.

About 35,000 people (of whom 29,000 are the shepherd Kurumbas) belong to Kanarese castes, and 178,000 (among whom the Kāpus, Balijās, Chakkiliyans, and Oddes are the most numerous) are Telugus by race. The rest of the Hindu population consists mainly of Tamils. The five castes which occur in the greatest strength, all being usually cultivators, are called Palli (148,000), Paraiyan (136,000), Ambalakāran (129,000), Vellāla (112,000), and Pallan (109,000). The third of these, the Ambalakārans, are more numerous in Trichinopoly than in any other District. So also are the two castes of the Muttiriyans and the Urālis, who are in some obscure manner connected with them, being perhaps descended from the same parent stock. Other castes which are found here in greater strength than elsewhere are the Sudarmāns and Nattamāns. These two bodies of agriculturists are singling themselves out by following some of the Brāhmanical customs. Of the Musalmāns the majority are Labbais, a mixed race of enterprising traders, sprung from unions between immigrant followers of the Prophet and Tamil women.

Except that the people are even more exclusively agricultural than usual, 73 per cent. of them subsisting by the land and 2 per cent. more by pastoral callings, their occupations in the mass present few peculiarities.

Of the 76,660 Christians in the District in 1901, 72,352 were Roman Catholics, and of these 71,961 were natives. In 1623 Robert de Nobili, of the famous Madura mission, established a Jesuit station at Trichinopoly. In the next century progress was checked here, as elsewhere, by Papal decrees prohibiting certain Hindu customs tolerated till then among converts, by the cessation of support from Portugal, and by the suppression of the Society of Jesus in 1773. The Society was, however, re-established in 1814, and in 1836 the Madura mission was entrusted to its care. Father Louis Garnier de Falton, who was put in charge of the congregation of Trichinopoly, revived the work of the mission, which had sunk very low, and built the cathedral in the cantonment and a house which he originally intended for a college, but which is now used as a residence by the bishop and his clergy. In 1846 the Right Rev. Alexis Canoz, S.J., was appointed first Vicar Apostolic; and when the Hierarchy of India was constituted in 1886, the Vicariate was made into a diocese under it and the episcopal residence was located at Trichinopoly. The portion of the District lying to the south of the Cauvery and the Coleroon belongs to this diocese, while that on

the north belongs to the diocese of Kumbakonam. The former diocese is suffragan to the metropolitan see of Bombay, and the latter to the see of Pondicherry. The Goanese Roman Catholic congregation is scattered about in small communities, under the jurisdiction of the arch-diocese of Goa and the diocese of San Thomé of Mylapore.

The Protestant missions working in the District are the Society for the Propagation of the Gospel, the Leipzig Lutheran, and the Wesleyan Mission. From 1762 to 1778 Swartz, the famous missionary of the Tranquebar Danish Mission, worked at Trichinopoly with the help of the Society for the Promotion of Christian Knowledge, and after him the Rev. C. Pohle carried on the work for over forty years. In 1825 the S.P.G. took it up, and continues to do considerable work to this day. The Wesleyan Missionary Society began its labours in 1847, and the Leipzig Lutheran Mission in 1850. The converts belonging to these three missions number about 2,700, 400, and 1,200 respectively.

Agriculture.

Of the total area of the District, according to the classification at settlement, 6 per cent. is alluvial land, 40 per cent. black soil, and 54 per cent. red earth. The first of these occurs in the valleys of the Cauvery and Coleroon. The *regar*, or black cotton soil, prevails in the uplands lying to the north of those rivers, occupying about two-thirds of the area in the eastern portion; towards the west black soils are found in the lower ground, but are overlaid with sand on the higher levels. South of the Cauvery the upland is generally covered by poorer soils, chiefly of a gravelly or sandy nature, and over wide tracts these are so impregnated with soda salts as to be almost bare of vegetation. Both 'wet' (irrigated) and 'dry crops' are mostly matured by means of the north-east monsoon in October and November, but cultivation is begun before this sets in.

Of the 3,632 square miles of the District, *ryotwāri* and 'minor *inām*' villages occupy 2,820 square miles, *zamīndāris* 634, and 'whole *inām*' villages 178. Agricultural statistics are available for only 3,041 square miles, of which, in 1903–4, 315 square miles (10 per cent.) were forest, 429 (14 per cent.) were not available for cultivation, 271 (9 per cent.) were cultivable waste not yet taken up for cultivation, 507 (17 per cent.) current fallows, and 1,519 (50 per cent.) formed the area cropped. Statistics by *tāluks* for that year are given in the table on the next page, in square miles.

The staple food-grains of the District are rice, *cholam* (*Sorghum vulgare*), *cambu* (*Pennisetum typhoideum*), *varagu* (*Paspalum scrobiculatum*), and *rāgi* (*Eleusine coracana*). The area under these crops in 1903–4 amounted to 1,320 square miles, or 78 per cent. of the total area cultivated, the respective percentages under each being 21, 16, 15, 15, and 11. Other food-grains occupied 9 per cent. The only other crops worth notice are gingelly (*Sesamum indicum*, 22,000 acres),

ground-nuts (35,000), and cotton (17,000). The Udaiyārpālaiyam and Perambalūr *tāluks* mainly produce *cambu* and *varagu*, Musiri and Kulittalai *cholam* and *cambu*, and Trichinopoly *cholam* and *rāgi*. Cotton is grown mostly in Musiri and Perambalūr, and ground-nuts almost exclusively in Udaiyārpālaiyam. The seed of the ground-nut introduced from Mauritius is said to give a much better yield than native seed. Otherwise there have been no recent improvements in agricultural practice. The crops raised on the Pachaimalais do not differ materially from those cultivated in the plains.

Tāluk.	Area shown in accounts.	Cultivated.	Irrigated.	Cultivable waste.	Forests.
Udaiyārpālaiyam .	546	361	31	43	28
Perambalūr . .	657	401	37	108	83
Musiri . . .	698	417	73	69	154
Kulittalai . .	597	476	53	20	40
Trichinopoly . .	543	371	145	31	10
Total	3,041	2,026	339	271	315

As compared with the average of the five years before the famine of 1876–8, the area in occupation during the quinquennium preceding the resettlement of the District in 1894–5 showed an increase of 8·3 per cent., and the average of the eight years succeeding this a further increase of 9·1 per cent. The average area occupied in the five years before 1901 rose by 1·2 per cent. above the average of the five years preceding 1891, compared with an increase in the population of 5·2 per cent. The population is thus increasing more rapidly than the area under cultivation. About 300 square miles are still available for cultivation, nearly two-thirds being in the Perambalūr and Musiri *tāluks*. The ryots have availed themselves of the Land Improvement Loans Act only to a limited extent, Rs. 94,000 having been advanced between 1888 and the end of June, 1903. The money has been mostly applied to the construction and repair of wells.

Both bullocks and buffaloes are used for agricultural purposes, but they are usually undersized and of no well-defined breed. They are bought and sold at the weekly local markets, of which those at Manappārai, Turaiyūr, and Ariyalūr are the most important. A better class of animals, imported from Salem and Mysore, are sold at the annual Samayapuram cattle fair. But latterly this has unfortunately been closed to bullocks from these two places, lest plague might be introduced into the District. Sheep and goats are of the usual varieties, and are kept chiefly for the sake of their manure and skins.

Of the total area of *ryotwāri* and 'minor *inām*' land cropped (1,519 square miles), 339 square miles, or 22 per cent., are irrigated. Of this, 160 square miles, or nearly half, are watered by channels from the

Cauvery and Coleroon, 91 square miles from tanks, and 77 square miles from wells. The principal channels are ancient works constructed by former native governments. They are supplied by *korambus* or temporary dams annually constructed in the bed of the rivers, and are used not only for direct irrigation, but also to conduct water to the tanks. They are annually washed away when the rivers rise in flood. Up to forty years ago they were managed by the villagers, but they are now under the control of Government. The whole system is still a rough-and-ready one, and stands in marked contrast to the splendid irrigation works which span the Cauvery and Coleroon (*see* CAUVERY) within the District for the benefit of the Tanjore delta immediately adjoining. The tanks in the District number 1,590, and the wells, which irrigate nearly as wide an area, 37,000.

Forests.

Trichinopoly contains 305 square miles of 'reserved' forest and 10 square miles of 'reserved' lands. The Pachaimalais contain some teak, black-wood (*Dalbergia latifolia*), sandal-wood, and bamboos, as well as *Albizzia*, *Terminalia*, and *Pterocarpus*. The Reserves in the plains and on the low hills, as well as the plantations on the banks of the Cauvery and Coleroon, are chiefly used as fuel reserves. Several varieties of *Acacia* (*arabica*, *planifrons*, and *leucophlaea*) abound in the uplands, while the trees principally grown in the plantations are *Acacia arabica*, casuarina, *kodukkāpuli* (*Pithecolobium dulce*), *vāgai* (*Albizzia Lebbek*), *gette* (*Dalbergia Sissoo*), *nīm* (*Melia Azadirachta*), and *nāval* (*Eugenia Jambolana*). The forest area in the adjoining Tanjore District being inconsiderable, the Forest officer of Trichinopoly is in charge of that District also.

Minerals.

There is no mining in the District, except some surface quarrying of laterite, white clays, and granite. Of the last, the black hornblendic variety is much prized and largely used in building temples. The clays are white varieties, used for pottery and for painting the *nāmams* or sect-marks worn by Vaishnavites on their foreheads. The pottery is of the ordinary designs; when burnt, the clay assumes a bluish-white tinge. The shell marble of Garudamangalam is worked to a small extent. Crude and refined saltpetre are made in considerable quantities. The unworked minerals are iron, limestone, phosphatic nodules, gypsum, mica, magnesia, and garnet. Phosphatic nodules containing about 57 per cent. of phosphate of lime are found in the neighbourhood of Uttattūr, over a tract of country 1 mile in width and 10 miles in length, both on the surface and imbedded in the clay; but their conversion into soluble manure is attended with some difficulty. Gypsum occurs in the neighbourhood of Uttattūr and Maruvattūr in fibrous or transparent plates; but it cannot be obtained in any quantity free from clay, which destroys its

whiteness. The mica found near Manappārai will not divide properly into scales. Magnesite strings in travertine or calcareous tufa, apparently due to the action of old thermal springs, are met with at Tripangali and Vālikandapuram. In one place in the crystalline limestone massive garnet (calderite) has been found.

Trade and communications.

The arts and manufactures of the District are unimportant. Weaving occupies the largest number of persons, but as a rule only coarse fabrics are made. Fancy cloths of cotton and silk with borders of silver thread are, however, made by the Patnūlkārans of Trichinopoly city. These are worn by the richer classes of Muhammadans, and are exported to various places in the Presidency. The silk is imported raw, and is cleaned and dyed by the weavers. The silver thread used for the borders is generally imported from Europe, but a specially good and proportionately expensive variety is sometimes obtained from Kumbakonam. Woollen blankets of an inferior kind are made by the Kurumbas in many villages, especially in the Musiri and Perambalūr *tāluks*. They are generally woven of black wool clipped from sheep reared by the Kurumbas themselves. White blankets and woollen and cotton carpets are also manufactured to a limited extent.

Trichinopoly gold and silver ware was once famous and in great demand; but a decline has occurred owing to competition from Madras city. There is still, however, a fair local demand. The work is rougher than the frosted silver ware made in Madras, but is by no means destitute of fancy and originality. Brass and copper vessels and plates are made at Trichinopoly and a few other villages. The copper vessels are made by Goanese native Christians. They are devoid, or nearly so, of all ornament. Worn-out copper coin, sold at the Treasury for its value as metal, is used for casting idols and for making brass. A well-known artificer of brass and copper idols lives near Lālugudi village. Glass bangles are made by Gāzula Balijā Chettis in the south of the District, from earth obtained from Pudukkottai territory and in the Udaiyārpālaiyam *tāluk*. The estimated value of the annual production is about Rs. 12,000. There are also a few manufacturers of ornaments such as pith models, encrusted metal ware, and paintings on talc and ivory. The two former, and also the silk cloths already mentioned, gained prizes at the Delhi Darbār Exhibition, the pith-work receiving, in addition, a bronze medal. This last is cheap and decidedly effective. Favourite subjects for it are models of the various famous temples, which are one of the best means of giving an untravelled European an idea of the characteristics of South Indian Hindu architecture. The lightness of these models and the ingenious way in which they are packed renders them suitable for export. They are not as well-known as they should be.

Among the manufactures and industries may be mentioned two screw cotton-presses, one at Trichinopoly and the other at Ariyalūr, in which about 600 tons of cotton are pressed annually. Seven tanneries are working in and about Trichinopoly city. The value of the annual output of tanned skins is estimated at over 5 lakhs, and the leather is largely exported to England. Outside the Madras Presidency, Trichinopoly city is best known for its cigars, of which some 12,000,000, valued at about Rs. 75,000, are annually manufactured and exported. The tobacco leaf is mostly obtained from DINDIGUL. The industry has suffered heavily from the competition of Madras and Dindigul cigars wrapped with the milder leaf grown in Java and Sumatra, but good plain cheroots are still turned out at reasonable prices. There are several iron-screw oil-presses in Trichinopoly city, in which lamp-oil is extracted from castor-seed. The cold-drawn oil is heated before being put into casks for export. Without this precaution it is apt to become rancid.

The chief exports of the District are cereals and pulses, chillies, cotton, gingelly, ground-nuts, plantains, coco-nuts, betel-leaf, jaggery (coarse sugar), tanned hides and skins, castor-oil, oil-cake, saltpetre, stone, and cigars. Most of these are sent to adjoining Districts. Ground-nuts, which are now largely grown in the Udaiyārpālaiyam *tāluk*, are exported to Kumbakonam and Cuddalore for English, French, and native firms. Tanned hides and skins are sent to Madras city and thence to England. Plantains are exported to the State of Mysore, and coco-nuts as far north as the Nizām's Dominions. Cigars are sent all over India and also abroad. Cotton is railed to Madras and Virudupatti. Oil-cake goes to Tuticorin, probably for export by sea to Ceylon. The chief imports are grain and pulse from Coimbatore; castor-seeds from the same District and Salem; cotton seeds from Virudupatti; coco-nut oil, pepper, and areca-nuts from Malabar; raw tobacco from Madura and Coimbatore; kerosene oil from Madras; piece-goods and twist from Madras and Bombay; salt and salted fish from Tanjore and Tinnevelly. Trichinopoly city is the chief centre of general trade, as a large portion of the rail-borne traffic has to pass through it, the tract of country to the north of the Cauvery and Coleroon rivers being accessible only by the bridges which cross these rivers near the city. Considerable traffic between the Udaiyārpālaiyam *tāluk* and Kumbakonam passes over the bridge on the Lower Anicut (*see* CAUVERY) across the Coleroon. Among minor centres of trade may be mentioned Ariyalūr, where there is a cotton-press, Perambalūr, and Turaiyūr. The principal trading castes are the Chettis and Labbais. There are several Nāttukottai Chettis, Gujarātis, and Mārwāris in Trichinopoly city. Most of the internal trade is effected through the weekly markets, of which twenty-four are under the control

of the local boards. The right to collect fees at these was leased in 1903-4 for Rs. 14,000. The most important are at Ariyalūr, Manappārai, and Turaiyūr. It is in contemplation to expend the fees collected at the first of these in bridging a large river which crosses the road from that town to Tanjore.

The railways of the District include the main line of the South Indian Railway, and its branch from Trichinopoly to Erode. The former enters the District from Tanjore on the east, passes through its head-quarters, and thence runs south-westward across it. The Erode branch proceeds westward from Trichinopoly along the southern bank of the Cauvery into Coimbatore District. The section from Tanjore to Trichinopoly and thence to Erode was originally built on the standard gauge, and was opened for traffic as far as Trichinopoly Fort in 1862, and to Karūr (in Coimbatore) in 1866. The line to Trichinopoly was converted to metre gauge in 1875, and that to Erode in 1879.

The District board has recently begun to levy a cess of 3 pies in the rupee of land assessment for the construction of such local steam-tramways or railways as may eventually be decided upon. It is also in contemplation to build a standard-gauge line, connecting with the other great broad-gauge systems, from Arkonam through Tirukkoyilūr and Trichinopoly and on to Rāmnād and the proposed port on Pāmban island. This would greatly benefit the north of the District, which is at present much isolated.

The total length of metalled roads is 596 miles, and of unmetalled roads 145 miles. With the exception of about 37 miles of unmetalled roads maintained by the Public Works department, all these, as well as the Cauvery and Coleroon bridges, are at present in charge of the local boards. Avenues of trees have been planted along 663 miles. The chief lines are the Madras trunk road from the north of Perambalūr to Madura, and a series of lesser routes radiating from Trichinopoly city to Karūr, Dindigul, Pudukkottai, Tanjore, and Udaiyārpālaiyam, and to Salem District through Perambalūr, Turaiyūr, and Musiri. The large number of these roads is a severe tax upon the resources of the boards. Their chief defect lies in the many small unbridged streams which cross them. These become torrents in the monsoon and sand-heaps in the dry season. Tolls are levied at fifteen places, the right to collect them being leased annually. The lease fetched Rs. 55,000 in 1903-4.

There are thirty-five ferries across the Cauvery and Coleroon, the boats used being circular coracles made of hides stretched on a light framework. These ferries were leased in 1903-4 for Rs. 15,000. The most important is that which plies between the towns of Musiri and Kulittalai. The chief bridges are that across the Cauvery connecting

Trichinopoly with Srīrangam island and town, and that over the Coleroon joining the opposite side of the island with the northern bank of that river. The Grand Anicut and Upper Anicut (*see* CAUVERY) both carry bridges; but as each of these crosses one of the two rivers, they are useful only for the limited amount of traffic which goes from the mainland to the extremities of the Srīrangam island. The Lower Anicut bridge, as already mentioned, forms an important outlet for traffic.

Famine.

Trichinopoly appears to have suffered in the famines of 1804, 1807, 1811, 1814, and 1833; but no particulars are available. During the famine of 1866 an average of 2,495 people were gratuitously relieved daily during the four months August to November, but the number on relief works was very small. The maximum number relieved in any month was 4,166 in September, 1866, and the total cost to the state was only Rs. 6,000. In the famine of 1876–8, the average number of people relieved during the twenty-two months from December, 1876, to September, 1878, was 4,423: namely, 2,318 on works and 2,105 gratuitously. The maximum number relieved in any one month was 20,550 (December, 1877). The cost of the famine to the state was 5 lakhs (1 lakh for gratuitous relief and 4 for works). The District suffered comparatively little, and distress was due less to failure of crops than to high prices caused by the exportation of grain to other areas. There has been no famine since.

Administration.

For administrative purposes the five *tāluks* are grouped into three subdivisions, all the officers in charge of which are usually Deputy-Collectors recruited in India. These are the Trichinopoly subdivision, consisting of the Trichinopoly *tāluk* only; the Musiri subdivision, comprising Musiri and Kulittalai; and the Ariyalūr subdivision, comprising Perambalūr and Udaiyārpālaiyam. A *tahsīldār* and a stationary sub-magistrate are posted at the head-quarters of each *tāluk*, in addition to deputy-*tahsīldārs* at Trichinopoly city, Lālugudi (Trichinopoly *tāluk*), Turaiyūr (Musiri *tāluk*), Manappārai (Kulittalai *tāluk*), and Kīlapalūr (Udaiyārpālaiyam *tāluk*). These officers have both revenue and magisterial powers. There are also benches of magistrates for Trichinopoly city and Srīrangam. The superior staff of the District consists of the usual officers. The Collector is *ex-officio* Political Agent for Pudukkottai State. Trichinopoly city is the head-quarters of a Deputy and an Assistant Commissioner of Salt and Abkāri Revenue, of a Superintending Engineer, and of the South Indian Railway.

Civil justice is administered by a District Judge and the four District Munsifs of Trichinopoly, Srīrangam, Kulittalai, and Ariyalūr. The two former both hold their courts in Trichinopoly city and have jurisdiction

over different parts of the Trichinopoly *tāluk*, the Srīrangam Munsif taking, roughly speaking, the part of it which lies north of the Cauvery, and the Trichinopoly Munsif the rest. The other two Munsifs try cases arising in the subdivisions of Musiri and Ariyalūr. Criminal justice is administered on the usual lines, there being a Court of Sessions besides the subordinate magistrates already mentioned and the three divisional officers. The District is no more addicted to crime than its neighbours, but the system of paying rewards to thieves for the recovery of stolen property instead of reporting the thefts to the police prevails to an unusual extent and takes unusual forms. The Kallans, the most criminal caste, exact, for example, what amounts to blackmail from all classes, even from Europeans, by ensuring that those households which employ a watchman belonging to this community shall be exempt from thefts, but that those which do not shall suffer proportionately. This practice is a relic of the old native police system, under which every one paid *kāval* ('watch') fees, and the watchmen were bound to make good any losses due to theft; and its eradication is a matter of the greatest difficulty. In Madura, recently, the whole population combined against these exactions of the Kallans, and after several riots and some bloodshed were successful in breaking them down to some extent.

No detailed information is available regarding the revenue system in force under the Chola and Naik dynasties, but it is known that the land tax collected by them amounted as a rule to half the gross produce and often more. Under Muhammadan rule, which immediately preceded the British occupation, the revenue was collected in kind in irrigated *tāluks*, the crops being generally equally divided between the government and the ryot after a deduction of 5 per cent. of the gross produce had been made for cultivation expenses. In certain cases, however, the ryots were allowed to take from 55 to $68\frac{3}{4}$ per cent. of the produce. The fees due to the village servants, which varied from 23 to 28 per cent. of the gross produce, were paid by the ryots out of their share. In the 'dry' portion of the country the land tax was collected in money, the rates in some villages being based upon the crop raised and in others upon the nature of the soil. The sale of grain was a strict government monopoly and large profits were made from it.

When the country came under the British Government, the Muhammadan system was at first adhered to, except that payments in kind were commuted into a money assessment. But the resources of the country had been exhausted by previous misgovernment and by war and famine, and this land tax pressed heavily on the people; the evil was aggravated by frequent floods, by deficient rainfall, and by a fall in the price of food-grains. Various experiments were made to lighten the burden—a triennial lease, a decennial lease, a settlement with each ryot

instead of with the head of the village or the village community, the reduction of the assessment, and the measurement of the fields and classification of their soils by the *karnams* or village accountants; but up to 1854 agricultural depression continued to be more or less marked. One great reason was the extraordinary fall in the price of produce, making all fixed money-rents difficult to meet, which was due to causes in operation throughout India. Owing to the slow development of export trade and the remittance of a considerable amount of specie to England, the currency of the country had become insufficient for its requirements under the altered conditions brought about by British rule: namely, the development of internal traffic, and the substitution of cash payments for payments in kind both in the receipt of taxes and the disbursements by Government. The revenue system was moreover very complicated and required amendment and simplification, and the need of a professional survey and settlement was much felt.

The survey was commenced in 1854–5 and the settlement in 1858–9. Soils were classified on a fixed plan, and the rates of assessment fixed were twenty-one in number for irrigated lands (varying from Rs. 7–8 to R. 1 per acre) and nineteen for 'dry' lands (varying from Rs. 3–8 to 4 annas). The averages for 'wet' and 'dry' lands were Rs. 4–4 and about R. 1 respectively. These rates were introduced in 1865; and, though the survey had shown that the area under cultivation had been understated in the old accounts by 7 per cent., they resulted in a decline of 25 per cent. in the revenue demand for the District. Irrigation of second crop was charged from one-third to one-fifth (according to the quality of the source from which it was watered) of the assessment on the first crop, subject to a minimum charge of R. 1 per acre. The cultivated land on the Pachaimalai hills was assessed at 8 annas and 4 annas per acre, the latter rate being applied to the *punalkādu* or hoe cultivation in vogue there. All these assessments included a road-fund rate of 2 per cent. on the land revenue, but not the fees to village servants, for which a cess of 6¼ per cent. on the revenue was separately levied.

This settlement continued in force for the usual period of thirty years. In July, 1891, a new survey was begun, which was completed in 1893–4, and in the following year a new settlement was made. In the Cauvery valley, and in the case of lands under the Coleroon, Amarāvati, and Nandiyār rivers, the 'wet' lands, which had for the most part been under-assessed before, and the 'dry' fields among them were classified afresh on the lines previously adopted in the adjoining District of Tanjore. For this tract the revised rates were twelve in number for 'wet' land, varying from Rs. 12 to Rs. 3–8 per acre, and eleven in number for 'dry' land, varying from Rs. 7 to 8 annas. Those fields in the Cauvery valley which had a sufficient and steady supply of water

for two crops were registered as permanent double-crop lands, and were charged one and a half times the single-crop assessment, whether a second crop was raised or not. In other parts of the District, composition for the second-crop charge was allowed at one-third, one-fourth, one-fifth, or one-sixth of the first-crop assessment, according as the land was watered by irrigation works of the second, third, fourth, or fifth classes respectively. No composition was allowed in the case of sources of the first class, but half the first-crop assessment was levied. In these parts, the 'wet' and 'dry' assessments were enhanced, in proportion to the rise in prices, by about 20 and 12½ per cent. respectively; there was no reclassification of the soils, but certain tanks were raised from a lower to a higher class with reference to their improved capacity for irrigation. The average assessment throughout the District on 'dry' land is Rs. 1-0-3 per acre (maximum Rs. 5, minimum 8 annas), and on 'wet' land Rs. 6-5-11 (maximum Rs. 12, minimum Rs. 3-8-0).

The effect of this resettlement was to raise the land revenue demand from Rs. 15,97,000 to Rs. 19,12,000, or by 19·7 per cent.; but the increase has not injuriously affected agricultural interests, as appears from the facts that grain prices remain steady at a higher level than formerly, and that the price of land has not fallen. The rates adopted do not include the road cess of 2 per cent., as in the previous settlement; in its place the land cess is levied separately as elsewhere at one anna in the rupee of the land revenue, or 6¼ per cent.

The revenue from land and the total revenue in recent years are given below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	16,10	18,62	26,72	24,89
Total revenue . .	19,90	26,28	36,88	37,55

Outside the two municipalities of TRICHINOPOLY and SRĪRANGAM, local affairs are managed by the District board and by the three *tāluk* boards of Trichinopoly, Musiri, and Ariyalūr, the areas under the control of which correspond with the three subdivisions of the same names. The total expenditure of these boards in 1903-4 amounted to Rs. 3,37,000, of which Rs. 1,91,000 was laid out on roads and buildings. The chief source of income is, as usual, the land cess. Thirteen Union *panchāyats* have been constituted under the Local Boards Act to look after sanitation in the smaller towns.

The District Superintendent is also *ex-officio* Superintendent of the police in the Pudukkottai State. In Trichinopoly there are 56 police stations and one outpost; and the strength of the force in 1904 was 11 inspectors, 87 head constables, and 624 constables, besides 936 rural police or *talaiyāris*. The Central jail in Trichinopoly city holds

1,373 prisoners. The convicts are largely employed in weaving blankets for native troops and for prisoners from the wool removed from skins before tanning. Hand-looms of the usual pattern are employed. Besides the Central jail, 9 subsidiary jails contain accommodation for 152 male and 55 female prisoners.

According to the Census of 1901, Trichinopoly ranks ninth among the 22 Districts of the Presidency in the literacy of both its male and female population, the percentages of persons able to read and write being 12·9 for males, 0·8 for females, and 6·6 for the two sexes together. Education, as might be expected, is most advanced in the Trichinopoly *tāluk*; Musiri, Udaiyārpālaiyam, and Kulittalai may be ranked together; while Perambalūr is the most backward. In 1880-1 pupils under instruction numbered 10,786; in 1890-1, 24,728; in 1900-1, 33,325; and in 1903-4, 37,318. On March 31, 1904, the number of educational institutions in the District was 1,024, including 738 classed as public and 286 as private. Of the former, 697 were primary, 30 secondary, and 9 training or other special schools, and there were 2 Arts colleges in Trichinopoly city, maintained by the Jesuit Mission (St. Joseph's) and the Society for the Propagation of the Gospel. Girl pupils numbered 4,167. Five institutions were managed by the Educational department, 94 by the local boards, and 13 by the municipalities, while 365 were aided from public funds, and 261 were unaided but conformed to the rules of the department. The five Government schools consist of a training school for masters in Trichinopoly city, with an upper primary school attached; a lower secondary vernacular school for girls at Srīrangam; and the primary girls' schools at Perambalūr and Jeyamkondacholapuram. The Society for the Propagation of the Gospel and the Roman Catholic mission each have a school for the training of mistresses. The technical schools include two which teach shorthand and typewriting respectively, and the Puttūr and Irungalūr industrial schools for women managed by the S.P.G., in which the girls are instructed in lace-making. The District board maintains an itinerating sessional school, in which village schoolmasters are prepared for the primary examination, for a few months at certain centres. Of the male population of school-going age 22 per cent. are in the primary stage of instruction, and of the female population of the same age 4 per cent. The corresponding percentages for Musalmāns (who, however, form only a small fraction of the population) are 75 and 4. Panchama pupils to the number of 2,614 are under instruction at 68 schools specially maintained for depressed castes. The total expenditure on education in 1903-4 was Rs. 2,96,000, of which Rs. 1,46,000 was met from fees. The outlay on primary education was nearly 41 per cent. of the total.

The District possesses 4 hospitals and 11 dispensaries. Two of the

former belong to the municipalities of Trichinopoly and Srīrangam, one, at Irungalūr, to the S.P.G., and the fourth, at Ariyalūr, to the *tāluk* board. The dispensaries are all under the management of the local boards. The hospitals contain accommodation for 78 males and 55 females. The total number of in-patients treated in 1903 was 1,900, and of out-patients 191,000; the number of operations performed was 5,800. The expenditure amounted to Rs. 44,000, the greater part of which was met from Local and municipal funds. In addition, a police hospital and a charitable dispensary of the Jesuit Mission are maintained at Trichinopoly. The patients treated in these in the same year numbered 300 and 30,000 respectively.

As regards vaccination in rural tracts, the District occupies a middle place. In 1903-4 the number of successful vaccinations was 28 per 1,000 of the population, the mean for the Presidency being 30. In the municipalities of Trichinopoly and Srīrangam the proportion was 75 and 53 respectively, the Presidency average for all municipalities being 50. Vaccination is compulsory in these two towns and in eight of the thirteen Unions.

[F. R. Hemingway, *District Gazetteer* (1906).]

Trichinopoly Tāluk.—Central *tāluk* in the District of the same name, Madras, lying between 10° 38′ and 11° 3′ N. and 78° 28′ and 79° 1′ E., with an area of 542 square miles. It forms a revenue subdivision by itself; and its chief town, TRICHINOPOLY CITY (population, 104,721), is the head-quarters of the subdivision as well as of the District. The population in 1901 was 382,091, compared with 360,829 in 1891. The number of towns and villages is 193, including the municipality and island of SRĪRANGAM (population, 23,039). The *tāluk* is divided into almost equal portions by the valley of the Cauvery and Coleroon. The demand for land revenue and cesses in 1903-4 amounted to Rs. 8,13,000.

Trichinopoly City (*Tiruchchinãppalli*).—Head-quarters of the District and *tāluk* of the same name, Madras, situated in 10° 49′ N. and 78° 42′ E., on the right bank of the Cauvery river, 195 miles from Madras by road and 250 miles by the South Indian Railway. It is the third most populous town in the Presidency. It once held the second place, but at the Census of 1901 Madura outstripped it, although during the decade ending with that year its inhabitants increased by 16 per cent. Of the total population (1901) of 104,721, 76,927 are Hindus, 14,512 Christians, and 13,259 Musalmāns. In 1891 its inhabitants numbered 90,609; in 1881, 84,449; and in 1871, 76,530. The fact that it is an important railway junction has had much to do with its rapid growth.

Trichinopoly is a very ancient place. Popular legend carries its history back beyond the days of the Rāmāyana. Later, the capital

of the Chola kingdom was once at Uraiyūr, a suburb of the town which is identified with the Ὄρθουρα mentioned by the Greek geographer Ptolemy (about A.D. 130). The local Purāna or history contains a story of the destruction of Uraiyūr by a shower of sand. There was a flower garden, says the tale, on the Trichinopoly Rock, in which the sage Sāramuni raised *sevvandi* (chrysanthemum) flowers for the worship of Siva. A gardener stole some of the flowers and presented them to the Chola king, Parāntaka, daily. When the theft was discovered and the gardener was arraigned before the king, the latter pardoned him. Siva was very wroth thereat, and turned his face towards Uraiyūr and rained sand on it. The king and queen fled, and as they ran he was buried in the storm of sand; she fell into the river, but was washed ashore and protected by a Brāhman. She gave birth to a son who was afterwards called to the throne, and was identified as the rightful heir by an elephant and was consequently called Karikāla. It has been surmised that this account has reference to a Pāndyan invasion. The king Parāntaka is probably Parāntaka II, whose son was Aditya II, *alias* Karikāla, reigning in the tenth century.

Inscriptions have been found in the Srīrangam and Jambukeswaram temples which show that as late as the fifteenth and sixteenth centuries descendants of the Chola dynasty reigned at Uraiyūr as vassals of Vijayanagar. In the thirteenth century the Hoysala dynasty appears to have held sway here for a time, with its provincial capital at Samayapuram. The Musalmāns succeeded in the fourteenth century, and then the Vijayanagar dynasty. During the rule of the Naiks of Madura, Trichinopoly was an important place and for some time their capital. The founder of that dynasty, Viswanātha Naik, is supposed to have fortified the town and constructed the Teppakulam reservoir. One of his successors, Chokkanātha, erected the building known as the Nawāb's Palace, obtaining the necessary materials by demolishing portions of the famous Tirumala Naik's palace at Madura. The building is also known as Mangammāl's Palace, after the Naik queen of that name.

In the Wars of the Carnatic, Trichinopoly (*see* TRICHINOPOLY DISTRICT) was the scene of frequent hostilities between the English and the French. After the country was ceded to the Company it continued for many years to be an important military station. Troops were first stationed within the fort, next at Uraiyūr, and subsequently in the present cantonment. The cantonment was formerly garrisoned by European and Native regiments; but in 1878, when the Afghān War broke out, the whole of the European contingent was removed and the garrison subsequently reduced to two regiments of Native infantry. At present it consists of one regiment and a part of another. The fort is rectangular, measuring about a mile by half a mile, and was

originally surrounded by ramparts and a ditch, but the walls have now been levelled and the ditch filled in. The streets in this part of the city are narrow but fairly regularly laid out.

Trichinopoly was constituted a municipality in 1866. The municipal limits include the cantonment and the fort as well as several other revenue villages. The municipal council consists of 24 members, of whom 8 are elected and 15 nominated by the Government, one of the latter being a military officer to represent the cantonment. The divisional officer is *ex officio* a councillor. The income averages about Rs. 1,50,000; and latterly the expenditure has exceeded the receipts, in consequence of the outlay incurred from borrowed money on the water-supply scheme. In 1903-4 the income amounted to Rs. 1,91,600, chiefly derived from the taxes on land and houses; and the expenditure was approximately equal to it. The water-works have cost about 8 lakhs, and loans were raised to the amount of Rs. 3,89,500. The supply is derived from wells and filter-beds laid in the bed of the Cauvery nearly a mile above the city, and the water is pumped up by steam and conducted into the city by pipes. The introduction of the supply has had a marked effect on the public health, and has practically abolished cholera, which was formerly the scourge of the place. The works are, however, liable to severe damage when the Cauvery is in flood, sometimes necessitating a return to the old tainted sources of supply. The problem of rendering them strong enough to resist floods is still under consideration; meanwhile the necessity for continued repairs is a severe drain on municipal revenues.

The most interesting object in the city is the famous Rock. It stands within the fort, rising sheer from the plain to a height of 273 feet above the level of the streets at its foot. The ascent is by a covered stone staircase, the entrance to which is on the south side. On each side of the gateway are stone figures of elephants, and the passage itself is lined with pillars with carved capitals. At the head of the first flight of steps a street runs completely round the Rock, by the side of which houses have been built. It is used for religious processions, and is connected with the street round the foot of the Rock on the eastern side. From the street opens a hall, on the left of which is a small shrine to Ganesa. A second series of steps leads out of this hall through an exit ornamented with statues of *dwārapālakas* ('gatekeepers') on each side. On ascending these, a second landing is reached, on each side of which is a large hundred-pillared *mantapam* or hall, that on the left being used twice a year for the reception of the idol belonging to the main temple. More steps lead to a third landing, to the left of which is a small room for the temple records and in front another shrine to Ganesa. The ascent now turns sharply to the left and then to the right, terminating on a fourth

landing giving access to the main temple. None but high-caste Hindus may enter this, but a view of a portion of the antechamber can be obtained from the landing. The steps now emerge into the open air, passing on the left a chamber hewn out of the rock and covered with Sanskrit inscriptions. This chamber was used as a magazine by the British during the siege, and has recently been opened out. The carvings appear to be of Buddhist origin, and are probably not later than the fifth or sixth century. Two short flights lead to a building to which the temple deity is taken once a year, and to a platform on the shoulder of the Rock, whence the top is reached by a final series of steps which are cut in the face of the rock. On the top is a third small shrine dedicated to Ganesa. This is surrounded by a gallery from which a fine view of the fort, the town, the Cauvery, Srīrangam island, and the adjacent country is obtained. At a corner of this gallery, overlooking the great temple, a narrow door leads on to a small platform, from which a view is obtained of the *kalasam* or golden covering over the central shrine of the temple. Beneath can be seen, sculptured in relief on the surface of the rock, two footprints which Hindus believe to have been made by Vibhīshana, the brother of Rāvana and the ally of Rāma. The Musalmāns, however, claim the footprints as those of the saint Nādir Shāh Auliya, who took up his residence on the Rock but was ejected by the god of the place.

At the foot of the Rock, on the north-eastern side, is a row of low buildings with semicircular arched roofs, said to be old bomb-proof barracks, and farther to the east a portion of the former outworks of the fort, the line of the walls being indicated by the open space surrounding the town. A representation of the Rock is sculptured on a tablet to Major Lawrence in Westminster Abbey. The deity in the main temple on the Rock is called Mātrubūtheswara in Sanskrit and Tāyumānavar in Tamil, from his having assumed the guise of a mother to attend on a helpless woman in childbed, her mother having been detained by floods on the other side of the Cauvery. When the floods subsided, the mother came across, and the woman and her husband were much puzzled as to who her double could have been. Siva then appeared in his real form and blessed them. This curious legend, and also that of Sāramuni, are painted panoramically on the inner wall of the temple.

Near the foot of the Rock is the Teppakulam, a large masonry tank or reservoir with a small but graceful *mantapam* in the centre. Overlooking it at the south-west corner is the main-guard gate, a substantial piece of masonry, from the top of which is the best view of the Rock as a whole. Distinguished visitors to the city are entertained by being taken to this point to see the Rock and the great tank outlined

with thousands of lamps, an impressive scene. The place was similarly illuminated at the two jubilees of the late Queen-Empress and on Coronation Day.

The Nawāb's Palace, a part of which is now used as a town hall and part as public offices, is situated close to the Rock. The portion used as the town hall was formerly the audience hall, and is a fine building of plain and massive architecture, surmounted by an octagonal dome and surrounded with colonnades. These last are perhaps, however, rather too squat to make an effective base for the dome. In front of the Nawāb's Palace is the Coronation Garden, with the Wenlock Fountain within.

Overlooking the Teppakulam at its south-east corner is a house once the residence of Clive, which is now occupied by St. Joseph's College. To the north-west of the Rock is Christ Church, founded by the famous missionary Swartz. His house is close by. Near the Fort railway station is what is known as Chanda Sāhib's tomb. It is in the Nādir Shāh mosque, wherein are buried the remains of Nādir Shāh Auliya, a saint who is reputed to have come here from Constantinople, and of one of his disciples, a lady. The railings round the tomb are pierced metal-work of a curious design. The building appears to have been constructed from the materials of Hindu temples, the head of a *lingam* having been converted into a lamp-post. The entrance hall to the mosque is clearly an old Hindu *mantapam*, left almost in its original state. Chanda Sāhib built the dome over the edifice and his remains are interred close to the building, while the remains of his rival Muhammad Alī and of members of his family are in the veranda and in a room attached thereto. There are Persian inscriptions on the walls of this building and of the mosque.

Besides the water-supply, the municipal council has built for the city a market in the fort and a hospital to the south of it. In front of the market are a clock-tower, the Diamond Jubilee Park, and the arch erected in commemoration of the visit of the present King-Emperor when Prince of Wales. The hospital has an endowment of Rs. 12,000 raised by public subscription in 1863, and also receives an annual grant of Rs. 4,500 from the District board. It has a maternity ward, a ward for high-caste patients, and a dispensing room for women and children, under the charge of a lady apothecary trained by Lady Dufferin's Fund.

Trichinopoly is one of the great educational centres in the south of the Presidency. It contains two first-grade colleges, maintained by the Jesuit Mission and the Society for the Propagation of the Gospel. The former, known as St. Joseph's College, was originally established at Negapatam in 1844 and was removed to Trichinopoly in 1883. The present building was opened in 1886. The Catholic

cathedral, a fine edifice, has been recently completed. Attached to the institution is a large boarding-house for native Catholic students, as well as lodgings for Brāhman and high-caste Hindus and hostels within the college compound. The S.P.G. College, which is a development of various schools founded by Swartz, was raised to a first-grade college in 1883. There is a hostel for Hindu students upon the college premises, and hard by is another bearing the name of Bishop Caldwell and intended mainly for Christian students from Tinnevelly. The proselytizing activity of the Jesuit Mission led to the establishment in 1886 of the National high school in the interests of the Hindu community.

Trichūr (*Trissivaperūr*).—Town in the *tāluk* of the same name, Cochin State, Madras, situated in 10° 32′ N. and 76° 13′ E. Area, 3½ square miles; population (1901), 15,585, of whom as many as 6,663 are Christians. Trichūr is considered the oldest town on the west coast, and its foundation is attributed by local tradition to Parasurāma. It was the scene of many historical events, of which the more recent were its capture and occupation by the Zamorin in 1760, by Haidar's army under Sardār Khān in 1776, and by Tipū in 1789. The town and the palace were fortified in 1774 with mud walls and trenches, but these defences are now in ruins. Situated at the head of the backwater communication, and possessing a railway station, Trichūr is a centre of considerable trade, which is chiefly in the hands of native Christians and Brāhmans from Tinnevelly. The former are an enterprising and prosperous community, the members of which own, among other concerns, four tile factories, a tannery, and a calico-weaving establishment. The chief buildings and institutions are the Palace, the Residency, the offices of the Chief Engineer, the Conservator of forests, and the Superintendent of police, the courts of the District Judge and the District magistrate, the civil hospital, three high schools for boys, and three lower secondary schools for girls. There are three important churches, one for the Chaldean Syrians, another for the Romo-Syrians, and the third for the Protestants. The most interesting and noteworthy institutions of the town are the temple of Vadakunnāthan, which is considered the oldest on the west coast, and the three Brāhman *maths*, or religious houses, which are said to have been founded by three of Sankarāchārya's pupils. Situated on an eminence, the temple contains several shrines and is surrounded by a high and thick masonry wall, with four massive *gopurams* or towers. Its income exceeds Rs. 30,000 per annum. The *maths* are also well endowed; in one of them Nambūdri Brāhmans are fed gratuitously and taught the Vedas.

Trikalūr.—Subdivision, *tāluk*, and town in South Arcot District, Madras. *See* TIRUKKOYILŪR.

Trimāb.—River formed by the united waters of the RĀVI, CHENĀB, and JHELUM rivers in the Punjab. Its length is 104 miles to the junction with the Sutlej.

Trimbak (more correctly, *Triambak*, 'the three-eyed,' a name of Mahādeo).—Town in the District and *tāluka* of Nāsik, Bombay, situated in 19° 54′ N. and 73° 33′ E., 20 miles south-west of Nāsik town. Population (1901), 3,321. Trimbak fort, which is 4,248 feet above the sea, and about 1,800 above the town, is on a scarp so high and precipitous as to be practically impregnable. The hill is 10 miles round the base and about 4 miles round the top. The scarp, which varies in height from 200 to 400 feet of perpendicular rock, surrounds the hill in every part, leaving only two gateways. The chief gateway through which the garrison received their stores and provisions is on the south. The north gateway is only a single gate, the passage to which is by narrow steps cut out of the rock, and wide enough for only one person at a time. Besides the gateways there are a few towers and works on different parts of the hill, but their position does not seem to have been chosen with a view to increase the strength of the fortress. In 1857 the Brāhmans of Trimbak instigated a party of Bhīls and Thākurs to attack the Trimbak treasury on the night of December 5. Trimbak is a place of Hindu pilgrimage, and, besides being visited by all the pilgrims who go to Nāsik, has a special fair in honour of Trimbakeshwar Mahādeo, held when the planet Jupiter enters the sign Leo, which event happens once every twelve years. The festival held in September, 1872, was attended by thousands of pilgrims from all parts of India. The municipality, which was established in 1866, had an average income during the decade ending 1901 of Rs. 6,100. In 1903-4 the income was Rs. 8,800, of which Rs. 3,500 was derived from a pilgrim tax. The town contains a dispensary.

Trinomalai.—*Tāluk* and town in South Arcot District, Madras. *See* TIRUVANNĀMALAI.

Tripatty.—Town in North Arcot District, Madras. *See* TIRUPATI.

Tripatūr (1).—*Zamīndāri tahsīl* and town in Madura District, Madras. *See* TIRUPPATTŪR (1).

Tripatūr (2).—Subdivision, *tāluk*, and town in Salem District, Madras. *See* TIRUPPATTŪR (2).

Trippapūr.—Village and shrine in the Trivandrum *tāluk* of Travancore State, Madras, situated in 8° 33′ N. and 76° 58′ E., about 5 miles north of Trivandrum. Population (1901), 1,937. The shrine, in which are worshipped the feet of Vishnu, is of great sanctity. Ananta Padmanābha, the tutelary deity of the Travancore royal house, is said to be resting with his head at Tiruvallam, his body at Trivandrum, and his feet at Trippapūr. This last name is a corruption of Trippādapuram ('city of the holy feet'), and after it the Mahārājā's family was formerly

known among the Malabar kings as *Trippapūr swarūpam.* The Mahārājās first put on the crown at this shrine and thereafter take the name of Kulasekhara Perumāl, a custom which suggests that this was the king's first capital, at least at the time when the coronation ceremony was instituted.

Tripunittura.—Town in the Kanayannūr *tāluk* of Cochin State, Madras, situated in 9° 57′ N. and 76° 20′ E., 8 miles east of British Cochin and 5 miles from Ernākulam. Population (1901), about 3,000. Its importance consists in its being the residence of the members of the ruling family, for whom the State has built several palaces. The present Rājā usually resides in a handsome palace, picturesquely situated on a hill 1½ miles to the east of the town.

Trivandrum (*Tiru-Anantapuram*, 'the holy city of Ananta').—Capital of Travancore State, Madras, situated in 8° 29′ N. and 76° 57′ E. Area, 9·89 square miles; population (1901), 57,882, consisting of 29,992 males and 27,890 females. Hindus number 47,860, Musalmāns 4,083, Christians 5,912, 'others' 27. Trivandrum is the largest town in Travancore, and the residence of the Mahārājā and the British Resident. It lies 2 miles from the sea, and contains a fort enclosed by a high wall about 1,000 yards long from east to west and about 800 yards from north to south. The fort and its neighbourhood constitute the most crowded part of the town, and here amid his people lives the ruler of the country. The celebrated shrine of Srī Ananta Padmanābhaswāmi is situated within the fort facing the east, a few yards inside the eastern gate. This has made Trivandrum a great religious centre, which attracts pilgrims from all parts of India throughout the year. In fact the town has really grown up about the shrine and owes its name to it. The temple has a revenue from land amounting to Rs. 75,000, and is under a peculiar system of management. Within the fort are also the palaces of the Mahārājā and other members of the ruling family. On the main road, a mile to the north of the fort, are the Huzūr Kacheri, in which the establishments of the Dīwān (or Minister), the High Court, and other head offices are accommodated in a handsome range of buildings of classic style. To the north of the public offices are the colleges for boys and girls, the Victoria Jubilee Hall, the Industrial School of Arts, the public library, the Christian churches, and the military cantonment in which is located the Nāyar Brigade. Farther north again is the Napier Museum, erected in the public gardens on plans embracing the prominent features of Malayālam architecture. Close to the Museum is the Observatory, where John Caldecott, the first astronomer (1837–49), and J. A. Broun, F.R.S., conducted their observations. The building, which was planned and erected by Captain Horsley of the Madras Engineers, is situated on a laterite hill, 195 feet above sea-level. Scattered about in all

directions save the south are the residences of Europeans and natives, picturesquely situated on isolated hills rising from 50 to nearly 200 feet above the sea, commanding beautiful views over a country which is perennially green and flourishing.

As regards industry and commerce, Trivandrum ranks below some of the other towns in the State. It has a small seaport; but the few vessels that touch at it have to lie at some considerable distance from the shore. Trivandrum is connected by good roads with all the important centres in the country. Towards the south, an excellent road about 53 miles in length leads to the Travancore frontier across the Aramboli pass, placing the town in communication with Tinnevelly, which is about 50 miles from the boundary. Towards the north, a chain of backwater communication gives easy access to Quilon and Cochin, and thus with the South Indian and Madras Railways.

Trivellore.—Subdivision, *tāluk*, and town in Chingleput District, Madras. *See* TIRUVALLŪR.

Trombay (*Turmbhen*).—Port in the Salsette *tāluka* of Thāna District, Bombay, situated in 19° 2′ N. and 72° 57′ E., about 3 miles north-east of Bombay City. Population (1901), 2,772. Trombay is a hamlet with a few huts, port and sea-customs offices, a salt store, and a ruined Portuguese church, with a well-preserved vaulted chapel 22 feet long, 22½ feet high, and 22 feet wide. The value of the trade in 1903–4 was returned at 71½ lakhs: namely, imports 40½ lakhs and exports 31 lakhs. The imports are chiefly cattle, gunny-bags, grass, and teak, and the exports rice, salt, firewood, and grass. The village contains a leper home.

Tukreswari.—Hill in the Habrāghāt *pargana*, Goālpāra District, Eastern Bengal and Assam, situated in 26° 3′ N. and 90° 38′ E., on the summit of which stood a temple dedicated to Durgā built by a former Rājā of Bijni. Its construction indicated considerable engineering skill on the part of the architect, and it was frequented by pilgrims from all parts of India. The temple was destroyed in the earthquake of 1897, but is now being rebuilt.

Tulamba.—Ancient town and ruins in Multān District, Punjab. *See* TALAMBA.

Tule La.—Pass in the State of Bhutān, situated in 27° 7′ N. and 89° 0′ E., 10,000 feet above the sea. By it the road from Sipchu to Paro crosses the range dividing the Di-chu and Amo-chu valleys.

Tuljāpur Tāluk.—Western *tāluk* of Osmānābād District, Hyderābād State. The population in 1901, including *jāgīrs*, was 58,415 and the area was 411 square miles; but in 1905 the Naldrug *tāluk* was added to it. The combined area is now 781 square miles, of which the population in 1901 was 114,750, compared with 121,799 in 1891, the decrease being due to the famine of 1900. The *tāluk* contains two

with natives and Europeans alike. In the south and south-west it greatly resembles that of Bangalore; the high elevation, the red soil, and the greenness of the surface among the hills contributing to moderate the temperature. From Sīra northwards the lower level of the country and the prevalence of black soil raise the temperature more nearly to that of the adjoining Bellary country. The east side of every range of hills is said to be perceptibly warmer than the west. The average range of the thermometer at Tumkūr throughout the year at noon is from 74° to 83°. The annual rainfall at the same place averages 39 inches.

History.

From an early period the country was in possession of the Gangas. The Pallava Nolambas had a capital at Penjeru or Henjeru (now Hemāvati on the northern border of the Sīra *tāluk*), and Nidugal was their stronghold. Under the Rāshtrakūtas the Kuningil (Kunigal) country was a province. The Hoysalas succeeded the Gangas; and the Henjeru and Nidugal chiefs, who claimed to be of Chola descent, were subdued by them. Partly under them and partly under the Chālukyas there was a small State at Huliyār. Another important district, called Anebiddasari or Anebiddajari, was situated in the country around Tumkūr. Under Vijayanagar this district was maintained, with its head-quarters on Devarāyadurga. Of the modern estates tributary to Vijayanagar, that of Nidugal in the north was founded by chiefs of the Harati family of Chitaldroog District; that of Holavanhalli or Korampur in the east, by a chief of the Avati family. There were also the Maddagiri estate in the north, the Hāgalvādi estate in the west, and south of that Hebbūr, which was absorbed by Māgadi. After the fall of Vijayanagar the north was overrun by the Bijāpur power, under which the province of Carnatic Bijāpur, of which Sīra was an important part, was formed in 1638, and placed under the government of Shāhjī, the father of Sivajī. In 1687 the Mughals followed, and made Sīra the capital of the Carnatic territories which remained in their possession for seventy years. Sīra was then taken in 1757 by the Marāthās, but restored two years after on the conclusion of peace. Meanwhile the Rājās of Mysore had been conquering all the parts not claimed by the Bijāpur government at Sīra. Dodda Deva Rājā died at Chiknāyakanhalli in 1672, and about 1696 Chikka Deva Rājā seized Jadakanadurga, changing its name to Devarāyadurga. In 1761 the Nizām's brother, Basālat Jang, conferred upon Haidar Ali the title of Nawāb of Sīra, and the conquest of the remainder of the District soon followed. In 1766 Sīra again fell into the hands of the Marāthās by the defection of Haidar's brother-in-law, but was retaken in 1774 by Tipū, who afterwards transported 12,000 families to Seringapatam, to people the new suburb of Shahr Ganjam. The Marāthās once again occupied it for a short time in 1791 on their march to join the British army under Lord Cornwallis.

The principal architectural remains are the Muhammadan buildings at Sīra. Of those now standing, the tomb of Malik Rihān (1651) and the Jāma Masjid (1696) are the chief. The inscriptions of the District have been translated and published.

Population.

The population at each Census in the last thirty years was: (1871) 689,026, (1881) 452,631, (1891) 580,786, and (1901) 679,162. The decrease in 1881 was due to the famine of 1876–8. By religion, in 1901, there were 633,847 Hindus, 31,765 Musalmāns, 10,388 Animists, 2,207 Jains, 949 Christians, and 6 'others.' The density of population was 163 persons per square mile, that for the State being 185. The number of towns is 18, and of villages 2,753. The largest town is TUMKŪR, with a population of 11,888.

The following table gives the principal statistics of population in 1901, according to *tāluks*:—

Tāluk.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Tumkūr	455	3	477	107,513	236	+ 18·3	7,438
Gubbi	552	2	421	87,468	158	+ 18·9	4,848
Kunigal	382	2	315	77,861	204	+ 17·1	2,457
Tiptūr	508	4	391	90,709	178	+ 15·0	4,026
Chiknāyakanhalli	532	2	278	60,071	113	+ 16·4	2,912
Sīra	599	1	247	77,604	129	+ 13·6	3,649
Maddagiri	606	3	480	116,695	193	+ 19·2	5,657
Pāvugada	524	1	144	61,241	117	+ 14·7	2,235
District total	4,158	18	2,753	679,162	163	+ 16·9	33,222

NOTE.—In 1902-3 a transfer of 97 square miles was made from the Chiknāyakanhalli *tāluk* to Chitaldroog District.

Wokkaligas or cultivators number 174,000; then come Lingāyats, 78,000; followed by the outcaste Mādigas, 60,000, and Holeyas, 37,000. Of Bedas, there are 50,000; of Gollas or cowkeepers, 43,000; and of Kurubas or shepherds, 42,000. Brāhmans number 19,000. Of Musalmāns nearly two-thirds are Shaikhs, who number close upon 20,000. The nomad tribes are represented chiefly by 4,000 Lambānis and 3,000 wild Kurubas. About 69 per cent. of the total are engaged in agriculture and pasture; 14 per cent. in the preparation and supply of material substances; 7 per cent. as unskilled labourers not agricultural; and 4 per cent. in the State service.

The number of Christians in the District is 949, of whom 912 are natives. The Wesleyan Mission has stations at Tumkūr, Gubbi, Kunigal, and other places. The Roman Catholics also have a few stations.

Except in the *tāluks* of Maddagiri, Chiknāyakanhalli, and in the east and north of Sīra and Koratagere, the soil is generally hard and poor, requiring much labour and manure to render it productive. There are tracts in some parts producing nothing but scattered stunted shrub, without even a blade of grass. This does not refer to the superior land irrigated by tanks, nullahs, and spring channels, as these soils in the *tāluks* referred to above are remarkable for their fertility. Pasture land is abundant but poor, except in the Amrit Mahāl *kāvals*. The southern and western *tāluks* have much red soil, and contain large tanks. The eastern *tāluks* have much sandy soil, the northern some black soil.

Agriculture.

The following table gives statistics of cultivation in 1903-4:—

Tāluk.	Area in square miles, shown in the revenue accounts.				
	Total.	Cultivated.	Irrigated.	Cultivable waste.	Forests.
Tumkūr	415	229	27	30	32
Gubbi	542	149	15	63	22
Kunigal	332	136	17	19	37
Tiptūr	493	207	7	62	...
Chiknāyakanhalli	423	125	6	87	30
Sīra	591	166	32	106	65
Maddagiri	530	178	20	62	29
Pāvugada	501	203	23	65	24
Total	3,827	1,393	147	494	239

Rāgi occupies 611 square miles; other food-grains, 292; gram, 180; rice, 100; oilseeds, 65; sugar-cane, 2; garden products, 98. Cotton and indigo are grown to a small extent in the Maddagiri and Pāvugada *tāluks*.

Up to 1904 a total of 2·44 lakhs had been advanced for the construction of irrigation wells, and Rs. 6,500 for field embankments. Agricultural loans to the amount of Rs. 22,600 had been granted for land improvements.

About 6 square miles are irrigated from channels, 136 from tanks and wells, and 5 from other sources. The number of tanks is 1,929, of which 450 are classed as 'major.'

The area of State forests in 1904 was 175 square miles, and of plantations 10. The forest receipts in 1903-4 amounted to Rs. 61,000, chiefly derived from minor produce and sandal-wood.

Iron ore is largely obtained from the hill-sides in Chiknāyakanhalli, either upon, or at a very small distance below, the surface. The metal is also smelted from the black sand brought down by streams from the rocks in Maddagiri and Koratagere. The Chiknāyakanhalli iron is esteemed the best, and is principally

Minerals.

manufactured from the quarries of Doregudda. The haematite or limonite obtained in the same neighbourhood is much used by braziers for polishing the utensils made by them. As yellow ochre it furnishes a dye, and is also applied as a colour-wash to the walls of houses. Corundum is found in small quantities in Turuvekere, and limestone in most of the *tāluks*. The quarry of black stone at Karekal-gudda has been already mentioned. Since 1902 deep prospecting for gold has been carried on at Bellara in the Chiknāyakanhālli *tāluk* with promising results.

Trade and communications.

The principal articles of manufacture are coarse cotton cloth, woollen blankets, both plain and black-and-white check, those prepared at Chiknāyakanhalli being the best; rope, made from cotton thread, the fibre of the coco-nut, wild aloe, *san*-hemp, and *munji* grass; and also strong tape. Silk is chiefly produced in Kunigal, Kadaba, Koratagere, and Sīra. There are reported to be in the District 98 looms for silk, 3,154 for cotton, 1,941 for wool, and 110 for other fibres; also 43 works for wood, 8 for iron, 42 for brass and copper, 599 oil-mills, and 42 sugar and jaggery mills.

The trade of the District is principally in the hands of the Lingāyats. Their chief emporium is at Gubbi, but there are also extensive marts at Bellāvi, Turuvekere, Tiptūr, and Chiknāyakanhalli, to which the trade of the Southern Marāthā country and of the Bellary, Vellore, and Madras Districts is attracted, as well as that of the west and south of Mysore. At Gubbi areca-nuts, pepper, and cardamoms are imported from Nagar, and transmitted to Vellore and Wālājāpet, whence nutmegs, mace, and European piece-goods are obtained in exchange and exported to Nagar. Sugar, sugar-candy, and silk, the produce of Bangalore, together with coco-nuts raised on the spot, are sent to Dhārwār, whence cotton and thread are received in return, part of which goes to Nagar. The coco-nuts and food-grains of Chiknāyakanhalli and Honnavalli are sent to Bangalore, in exchange for jaggery, sugar, and sugar-candy. From Honnavalli, Turuvekere, and other marts, coconuts, iron, steel, tobacco, and silk are exported to Dhārwār and the Southern Marāthā country; and cotton, thread, *kusumba*, and Persian dates are received in exchange, much of the imports going to Bangalore by way of Sīra and Tumkūr. At Bargūr in Sīra and Hampasandra in Maddagiri a trade is carried on between Bangalore and Bellary, sugar, sugar-candy, and European piece-goods from the former being exchanged for cotton from the latter. The most valuable exports are food-grains, coco-nuts, areca-nuts, oilseeds, and oils. The most valuable imports are silk and cotton, food-grains, sugar, and jaggery.

The Southern Mahratta Railway from Bangalore to Poona runs east and west for 61 miles through the District. There are 159 miles of Provincial roads, and 473 miles of District fund roads.

Since the general famine ending in 1878, the failure of rains has caused apprehension at various times, as in the adjacent Districts, but no serious famine has been felt. In 1896–7 a remission was granted of half the assessment on waste 'wet' lands owing to the failure of rain. The District was somewhat affected in 1905.

Famine.

The District is divided into eight *tāluks*: CHIKNĀYAKANHALLI, GUBBI, KUNIGAL, MADDAGIRI, PĀVUGADA, SĪRA, TIPTŪR, and TUMKŪR.

Administration.

The Deputy-Commissioner is the head of the District, and the following subdivisions were formed in 1903 and placed in charge of Assistant Commissioners: Tumkūr and Kunigal; Maddagiri, Pāvugada, and Sīra, with head-quarters at Maddagiri; Gubbi, Chiknāyakanhalli, and Tiptūr, with head-quarters at Tumkūr.

The District and Subordinate Judge's courts of Bangalore have jurisdiction over the District, and there are Munsifs at Tumkūr and Maddagiri. Criminal cases are not, as a rule, of a serious nature.

The land revenue and total revenue are shown below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	7,77	10,99	12,89	18,08
Total revenue . .	9,17	15,06	19,37	19,68

The revenue survey and settlement were introduced into Sīra, Tumkūr, and Pāvugada between 1870 and 1872, and into the remaining *tāluks* between 1877 and 1882. The incidence of land revenue per acre of cultivated area in 1903–4 was Rs. 1–6–2. The average assessment per acre on 'dry' land is R. 0–9–1 (maximum scale Rs. 2–2, minimum scale R. 0–1–6); on 'wet' land, Rs. 3–11–11 (maximum scale Rs. 10, minimum scale R. 0–6); and on garden land, Rs. 4–13–3 (maximum scale Rs. 16, minimum scale Rs. 2).

In 1903–4 there were ten municipalities—TUMKŪR, Maddagiri, Koratagere, CHIKNĀYAKANHALLI, SĪRA, GUBBI, Tiptūr, Turuvekere, Pāvugada, and Kunigal—with a total income of Rs. 35,500, and an expenditure of Rs. 40,500. There were also eight Unions—BELLĀVI, Kyātsandra, HOLAVANHALLI, HULIYĀR, Kadaba, Nonavinkere, HONNAVALLI, and Huliyūrdurga—with an income and expenditure of Rs. 8,000 and Rs. 18,000. Outside the areas administered by these, local affairs are managed by the District and *tāluk* boards, which had in 1903–4 an income of Rs. 72,000, chiefly derived from a share of the Local fund cess, and which spent Rs. 71,000, including Rs. 61,000 on roads and buildings.

The strength of the police force in 1903–4 was one superior officer, 91 subordinate officers, and 558 constables, of whom 2 officers and

29 constables formed the special reserve. There are 11 lock-ups, containing a daily average of 12 prisoners in 1904.

The percentage of literate persons in the District in 1901 was 4·9 (9·1 males and 0·6 females). The number of schools increased from 511 with 12,038 pupils in 1890–1 to 638 with 18,098 pupils in 1900–1. In 1903–4 there were 606 schools (313 public and 293 private) with 16,617 pupils, of whom 2,846 were girls.

The civil hospital and twelve dispensaries treated 91,735 patients in 1904, of whom 307 were in-patients, the number of beds available being 17 for men and 19 for women. The total expenditure was Rs. 24,000.

There were 9,266 persons vaccinated in 1904, or 14 per 1,000 of the population.

Tumkūr Tāluk.—Eastern *tāluk* of Tumkūr District, Mysore, lying between 13° 7′ and 13° 32′ N. and 76° 58′ and 77° 21′ E., with an area of 455 square miles. The population in 1901 was 107,513, compared with 90,702 in 1891. The *tāluk* contains three towns, TUMKŪR (population, 11,888), the head-quarters, Kyātsandra (2,067), and BELLĀVI (1,669); and 477 villages. The land revenue demand in 1903–4 was Rs. 1,95,000. The east is occupied by the Devarāyadurga hills, surrounded by forest. The Jayamangali rises there, but has a short and rocky course. South of the hills are fine tanks, the streams forming which run west to the Shimsha. Round Tumkūr the country is very fertile and highly cultivated; to the north it is less fruitful. Areca-nut and coco-nut gardens abound.

Tumkūr Town.—Head-quarters of the District and *tāluk* of Tumkūr, Mysore, situated in 13° 21′ N. and 77° 6′ E., on the Southern Mahratta Railway, 43 miles north-west of Bangalore. Population (1901), 11,888. It stands on elevated ground at the south-west base of the Devarāyadurga hills, near the waste weir of a large tank, and is surrounded by gardens of plantains and palms, besides fine groves. From the twelfth century it was included in the Anebiddajari or Anebiddasari district. The present town is said to have been founded by Kānta Arasu, one of the Mysore family. The walls of the fort have been levelled. Tumkūr is a principal station of the Wesleyan Mission. The municipality dates from 1870. The receipts and expenditure during the ten years ending 1901 averaged Rs. 14,500 and Rs. 11,000. In 1903–4 they were Rs. 10,000 and Rs. 15,000.

Tumsar.—Town in the District and *tahsīl* of Bhandāra, Central Provinces, situated in 21° 23′ N. and 79° 46′ E., on the Bengal-Nāgpur Railway, 27 miles from Bhandāra town and 570 from Bombay. Population (1901), 8,116. The town was constituted a municipality in 1867. The municipal receipts during the decade ending 1901 averaged Rs. 5,400. In 1903–4 the income was Rs. 4,000, principally derived

from a house tax and market dues. Tumsar is an important commercial town, receiving the produce of the north of the District and the adjoining tracts of Seonī and Bālāghāt. A covered market-place has been constructed and a large weekly grain market is held here. The rice grown in the vicinity of Tumsar has a special reputation. The local handicrafts include cotton-weaving, which is carried on in the town and several adjoining villages, the annual purchases of thread by the weavers being estimated at 3 lakhs. White loin-cloths with red borders are the chief articles woven. Numbers of cart-wheels are also made in Tumsar and exported to Nāgpur and Berār. The town possesses a vernacular middle school, a girls' school, and a dispensary.

Tunāwal.—Tract of mountainous territory in Hazāra District, North-West Frontier Province. *See* TANĀWAL.

Tūndla.—Village in the Itimādpur *tahsīl* of Agra District, United Provinces, situated in 27° 13′ N. and 78° 14′ E. Population (1901), 3,044. It is the junction for Agra on the main line of the East Indian Railway, and is an important railway centre. The railway medical officer residing here is usually invested with magisterial powers to try petty cases, and there is a church with a resident clergyman. The town is administered under Act XX of 1856, with an income of about Rs. 500.

Tungabhadra.—River of Southern India, the chief tributary of the Kistna, which is fed by all the streams of the northern half of Mysore State. It is formed by the union of the twin rivers Tunga and Bhadra, which rise together in the Western Ghāts at Gangāmūla, on the frontier of Kadūr District, Mysore. The Tunga runs north-east to beyond Sringeri, and then takes a sharp turn north-west to Tīrthahalli, whence its course is again north-east past Shimoga town. The Bhadra runs east to the western base of the Bābā Budan range, and then north past Benkipur. The two unite at Kūdali in the north of Shimoga District (14° N. and 75° 43′ E.). The united river forms the boundary between Mysore and Bombay, and then between Bombay and Madras. Turning north-east it forms the boundary between Madras and the Nizām's Dominions, and bending east in the north of Bellary District it joins the Kistna, beyond Kurnool, after a total course of about 400 miles. From Shimoga District the Tungabhadra receives the Choradi or Kumadvati and the Varadā on the west, and the Haridrā on the south. From Chitaldroog District it receives the Chinna Hagari and the Vedāvati or Hagari on the south.

The Tungabhadra is bridged for the trunk road at Harihar, where it is also crossed by the railway from Hubli to Bangalore; and again at Hosūru and Rāmpuram in Bellary District, where the lines from Hubli to Bellary and from Madras to Bombay pass over it.

There are thirty-eight small irrigation dams on the Tunga and the Bhadra in Mysore, but the beds of both rivers are for the most part rocky, and consequently unsuitable for navigation. The manner in which the country rises rapidly away from either side of the Tungabhadra has also hitherto prevented it from being greatly utilized for irrigation in either the Nizām's Dominions or the Madras Presidency, though in the former State its left bank is dammed for a distance of about 30 miles. The kings of the ancient dynasty of Vijayanagar (1336–1565), the ruins of whose capital still stand on its bank near the little village of Hampi in Bellary District, threw across it, above and below the city, a number of dams made of huge blocks of uncemented stone, of which ten are still used for watering narrow strips of land along the southern edge of the river. A few miles above the point where the Tungabhadra falls into the Kistna a dam also turns part of the water into the KURNOOL-CUDDAPAH CANAL. The river is, however, perennial and comes down in frequent heavy freshes, which cannot be utilized by any of these works, and are not required for irrigation in the delta of the Kistna lower down. The Irrigation Commission of 1901–3 accordingly recommended the reinvestigation of a project, which has been several times mooted in different shapes, for constructing a reservoir upon the river in Bellary District. It is calculated that a masonry dam about 145 feet long near Hospet, where the river cuts through some low hills, would hold back the water for a distance of nearly 40 miles, and form a lake with an area of 160 square miles and a capacity four and a half times as great as that of the Assuān reservoir on the Nile. From this a canal would be led to Bellary, tunnelling in its course through some rocky hills, and thence across the Hagari, through the watershed between this river and the Penner, and finally into the bed of the latter river. The canal and its distributaries would command portions of the Bellary, Kurnool, Anantapur, Cuddapah, and Nellore Districts of Madras. Detailed estimates for this great scheme, the cost of which is roughly estimated at 8 crores, are now under preparation.

The origin of the river is thus accounted for in local legend. A demon having seized the earth and carried it into the lower world, Vishnu became incarnate as a boar, and plunging into the ocean brought it up again. Resting after this exertion on the Varāha-parvat or 'boar mountain,' the perspiration trickling off his left tusk became the Tunga, and that from his right tusk the Bhadra.

Tungār.—Hill in the Bassein *tāluka* of Thāna District, Bombay, situated in 19° 26′ N. and 72° 55′ E., about 9½ miles from Bassein Road, on the Bombay, Baroda, and Central India Railway, to the summit, which is 2,200 feet high. Like most Konkan hills, Tungār is trap, capped by a layer of iron-clay or laterite from 200 to 300 feet

deep. The sides are clothed with forest. Its comparatively light rainfall and its openness to the sea make Tungār a very desirable site for a sanitarium. The hill is inhabited by Kolīs and Vārlīs.

Tuni Tahsīl.—*Zamīndāri tahsīl* on the north-east border of Godāvari District, Madras, lying between 17° 11′ and 17° 32′ N. and 82° 9′ and 82° 36′ E., with an area of 216 square miles. The population in 1901 was 58,762, compared with 57,448 in 1891. It contains one town, Tuni (population, 8,842), the head-quarters; and 48 villages. The demand on account of land revenue and cesses in 1903–4 amounted to Rs. 41,000. A large part of the *tahsīl* is covered with hills and jungle.

Tuni Town.—Head-quarters of the *zamīndāri tahsīl* of the same name in Godāvari District, Madras, situated in 17° 22′ N. and 82° 32′ E. on the East Coast Railway, 425 miles from Madras. Population (1901), 8,842. It is a market of local importance.

Turā.—Head-quarters of the Gāro Hills District, Eastern Bengal and Assam, situated in 25° 31′ N. and 90° 14′ E. The village has been built on a small plateau about 1,300 feet above the level of the sea, and the range from which it takes its name rises immediately behind it to a height of about 4,500 feet. It is connected by cart-road with Dālu on the south and the Rowmari steamer *ghāt* on the west. The population in 1901 was 1,375. Turā was fixed upon as the civil station when the Gāro Hills were formed into a separate District in 1869. Its situation is extremely picturesque, the station being surrounded by woods and nestling under the forest-clad hill, while the view from the village and from the mountain top is magnificent. The rainfall is, however, heavy (125 inches), and the climate is hot and exceedingly unhealthy, the low, densely wooded hills on every side being excessively malarious. Turā contains a small jail with accommodation for 36 prisoners, and a hospital with 15 beds, and is the head-quarters of a military police battalion and of a branch of the American Baptist Mission. The station has a good water-supply distributed by an aqueduct. The bazar is a centre of local trade, and contains a few shops owned by foreign traders.

Turaiyūr.—Town in the Musiri *tāluk* of Trichinopoly District, Madras, situated in 11° 10′ N. and 78° 36′ E. It has a population (1901) of 12,870 and is a rapidly growing place, containing the head-quarters of a deputy-*tahsīldār* and sub-magistrate, and being the chief town of the *zamīndāri* of the same name. It is picturesquely situated near the Pachaimalai Hills, and not far from the Kollaimalais in Salem. The most noticeable objects in the town are the large reservoir with stone steps and parapet walls, on which the floating festival is held, the god being taken round it on a raft; and the irrigation reservoir close by, in the centre of which is a curious building, three storeys high, in

which the *zamīndār* used formerly to spend short periods when the reservoir was full of water. The building is now out of repair and rapidly falling into ruins, which is unfortunate, as it is a picturesque example of a semi-Moorish style of architecture.

The Turaiyūr *zamīndāri* has had a very chequered career, which is typical of the fortunes of many similar properties in Southern India. During the siege of Trichinopoly in 1752 a detachment of the Mysore army, assisted by some French troops, overran the estate, deposed the reigning chieftain, and put one of his cousins in his place. In 1755, this new chief having neglected to pay his tribute, a detachment of French troops and sepoys from Pondicherry took the town, deposed him, and reinstated his predecessor. In 1756, however, the *zamīndār* again failed to pay his tribute and was accordingly deposed by the French, his immediate predecessor taking his place. In 1758 Captain Calliaud sent a detachment under Captain Smith to restore the chief whom the French had last expelled, as he was befriended by the chiefs of Ariyalūr and Udaiyārpālaiyam, who had always been bitter opponents of the French. Turaiyūr was captured after some spirited skirmishing in the woods which then surrounded the place. The expelled chief was again reinstated and five companies of sepoys were left to protect him. The chief who had been ejected by Captain Smith escaped to Mysore. When, however, at the end of 1758, some of the troops had to be withdrawn from Turaiyūr, he took advantage of the opportunity to capture the town. He then submitted to the Nawāb of Arcot, who confirmed him in the possession of the estate. In 1773 the Turaiyūr chief quarrelled with his son, who, fearing that his father had a design on his life, left the country and proceeded to Madras to lay his case before the Nawāb. The Nawāb took the opportunity of raising the tribute, and in the competition between father and son it was enhanced from $1\frac{1}{2}$ to $2\frac{3}{4}$ lakhs in twenty years. In 1795, however, the father and the son became reconciled, and, seeing that they could not possibly meet the Nawāb's demands, left the country and took refuge in Tanjore, where the former died. In 1796 the son collected a number of men and laid waste the estate. Eventually an agreement was come to between him and the Nawāb, by which he retired to Tanjore on a monthly allowance of Rs. 1,000, with power to levy an assessment on the inhabitants of Turaiyūr not exceeding 25 per cent. of the amount of revenue collected by the state. This arrangement continued in force till the assignment of the Carnatic to the Company. As a preliminary step to the grant of a *sanad* (title-deed) to the chief, the estate was placed under the management of the Collector with a view to ascertain its income, and the chief was allowed 10 per cent. of its net revenue. In 1816 it was decided that he should not be restored to the possession of the entire estate, but should receive

only the village in which he lived, together with a number of other surrounding villages of an annual value equal to 10 per cent. of the gross collections. For this he paid the nominal *peshkash* of Rs. 700. A *sanad* was issued to him in 1817. The family is of the Reddi caste and of Telugu extraction. The *zamīndāri* has recently been declared impartible.

Turanmāl.—Hill in the Sātpurā range, in the Taloda *tāluka* of West Khāndesh District, Bombay, situated in 21° 53′ N. and 74° 48′ E. This was once a seat of the rulers of Māndu, and consists of a long, rather narrow table-land, from 3,300 to 4,000 feet high, and about 16 square miles in area. A fine artificial lake on the hill-top and the remains of many temples and walls are locally ascribed to the saint Gorakhnāth. On the south side of the hill a Jain temple of Pārasnāth is the scene of an annual fair in October. Save for a few wandering Bhīls, the hill is uninhabited. In the Mahābhārata the ruler of Turanmāl is mentioned as fighting with the Pāndavas.

Turbhen.—Port and village in Thāna District, Bombay. *See* TROMBAY.

Turuvanūr.—Town in the Chitaldroog *tāluk* of Chitaldroog District, Mysore, situated in 14° 24′ N. and 76° 26′ E., 11 miles north by east of Chitaldroog town. Population (1901), 5,035. The people are largely engaged in the weaving of blankets and cotton cloths. Dyers in red also carry on their trade. The municipality was formed in 1899. The receipts and expenditure for two years ending 1901 averaged Rs. 600 and Rs. 200. In 1903–4 they were Rs. 800 and Rs. 2,000.

Tuticorin Subdivision. — Subdivision of Tinnevelly District, Madras, consisting of the OTTAPPIDĀRAM and SRĪVAIKUNTAM *tālūks*.

Tuticorin Town (*Tūttukkudi*).—Town and port in the Ottappidāram *tāluk* of Tinnevelly District, Madras, situated in 8° 48′ N. and 78° 9′ E., 443 miles by rail from Madras city. It is the second seaport in the Presidency and the southern terminus of the South Indian Railway. It was first (about 1540) a Portuguese settlement, was captured by the Dutch about 1658, and taken from the Dutch by the English in 1782. It was restored to the Dutch by treaty in 1785, but retaken in 1795. The Dutch obtained it again in 1818, but ceded it in 1825 to the English, in whose possession it has remained ever since. Tuticorin seems to have been a most important place formerly, and in 1700 the Jesuits spoke of it as having 50,000 inhabitants.

The appearance of the town and its neighbourhood is not attractive. In parts the soil is so thin that no trees or plants will flourish; and elsewhere there is little but heavy sand, on which only palmyra palms and a few bushes grow. The rainfall is scanty, the annual average being only 24 inches. The water-supply of the town is derived from

the Tāmbraparni, being brought from a reservoir 4 miles distant. The local wells are all brackish. An estimate amounting to Rs. 1,15,000 has been sanctioned for an improved scheme for supplying the town with drinking-water, and the work has been taken in hand.

Tuticorin is the head-quarters of the divisional officer in charge of the Srīvaikuntam and Ottappidāram *tāluks*, as well as of an Assistant Superintendent of police and an Assistant Commissioner of Salt and Abkāri Revenue. The Additional Sub-Judge's court, hitherto located at Pālamcottah, has also been removed to the town. There is a Government salt factory at Arasadi, a village near by.

A municipality was constituted in 1866. The income and expenditure during the ten years ending 1902–3 averaged Rs. 45,700 and Rs. 37,800 respectively. In 1903–4 they amounted to Rs. 54,700 and Rs. 61,000. The expenditure includes capital outlay on water-supply works, and the excess over receipts was met by a loan from Provincial revenues. Most of the income is derived from the taxes on houses and land and from tolls. The population in 1901 was 28,048, of whom Hindus numbered 18,418, Musalmāns 1,694, and Christians 7,936. The great majority of the last are Paravans (fishermen), whose forefathers were converted to Roman Catholicism in a body in the sixteenth century. Tuticorin is their chief town and the residence of the *jāti talaivar*, or headman of their caste. Several European firms have agencies in the place. It contains three Catholic churches, a convent of native nuns, and three high schools for boys. There is also an old Dutch cemetery, in which are elaborately carved tombstones bearing coats of arms.

Tuticorin ranks next to Madras city in the Presidency and sixth in all India in the importance of its trade. It possesses a cotton-spinning mill and five factories for cleaning and pressing cotton. In 1903–4 the Coral Mills Company employed nearly 1,600 hands and turned out 2,600 tons of yarn. The other factories employed in the aggregate nearly 400 hands and pressed nearly 12,000 tons of cotton, besides considerable quantities of cinchona, palmyra-fibre, and *san*-hemp.

The harbour of Tuticorin is well sheltered, but has only 12 feet of water at the entrance. Vessels other than country craft have accordingly to anchor from 4 to 5 miles from the land, and their cargo is brought ashore in boats ranging from 20 to 50 tons burden. About 60 large boats with a total capacity of nearly 1,500 tons ply in the port, and 500 boatmen are always available. The port has an iron screw-pile pier, besides a wooden jetty for light work and six private jetties owned by European firms. There is a lighthouse on Hare Island, 2½ miles from the shore, in which is a fixed light visible for 14 miles from all directions seaward. In 1903–4, 1,350 vessels with a total tonnage of 750,000 tons called at Tuticorin. Of these, 450 were

steamers with a tonnage of 713,000. The trade of the port has steadily advanced, the value of its exports and imports in 1903-4 amounting to 286 lakhs and 161 lakhs respectively, against 157 lakhs and 68 lakhs in 1891-2. The principal articles of export are raw cotton, live animals (principally cattle and goats to Ceylon), coffee, cotton piece-goods, drugs and medicines, oil-cake, rice, hides and skins, spices, and tea. Raw cotton makes up nearly half the total value of the export trade of the port, which conducts about three-fourths of the trade of the Presidency in this article. The value of the cotton exported in 1903-4 amounted to 119 lakhs, against 98 lakhs in 1895-6. It is sent to many parts of Europe and Asia. Tuticorin has the largest export of chillies in the Presidency, while it comes next to Cochin in the value of its export trade in tea. A large quantity of rice is annually sent to Ceylon. The chief imports are European cotton twist and yarn and piece-goods, petroleum, machinery, hardware and cutlery, areca-nuts, and timber. There is also a very large passenger traffic with Ceylon, the average number of passengers who arrived at the port during the three years ending 1901-2 being 97,190, and of those who left it 83,402. The coasting steamers of the British India Steam Navigation and Asiatic Navigation Companies call frequently, and there is a daily mail service to and from Colombo in connexion with the South Indian Railway. Passengers are conveyed to the boats in steam launches. The port is under the control of a Port officer, who is also the Superintendent of the Pearl and Chank Fisheries. A small steamer is kept up in connexion with the latter. A committee for landing and shipping dues has recently been constituted.

Twante Subdivision.—Subdivision of Hanthawaddy District, Lower Burma, comprising the TWANTE and KUNGYANGON townships.

Twante Canal.—A tidal canal, without locks, in Hanthawaddy District, Lower Burma, close to and due west of the city of Rangoon, opened in May, 1883, with the object of improving boat communication between Rangoon and the Irrawaddy. The canal proper is a straight cut connecting the Kanaungto creek, which discharges eastward into the RANGOON RIVER opposite Rangoon, with the Twante creek, discharging westward into the China-Bakīr river. The canal is $7\frac{3}{4}$ miles in length, and was originally dug to a base width of 25 feet, the bed-level being uniformly $4\frac{1}{2}$ feet above the zero of the tide tables. Since its construction the width has increased by tidal action, while the depth has been fully maintained by an hydraulic dredger. The average base width is now about 40 feet. The saving in distance effected by the canal is considerable, the river journey from Rangoon to Ma-ubin, which, via the Bassein creek, is 100 miles, being reduced to 45 miles if use be made of the canal. The cost of digging the

straight cut opened in 1883 was 1½ lakhs, which may be taken as about half the total capital cost of the work.

Twante Township.—Township in Hanthawaddy District, Lower Burma, lying between 16° 34′ and 16° 56′ N. and 95° 49′ and 96° 14′ E., with an area of 369 square miles. The population was 69,123 in 1891, and 85,441 in 1901. The head-quarters are at Twante (population, 4,684), at the western end of the Twante creek, which runs through the centre of the township and connects it with Rangoon. The township contains 343 villages. It is low-lying, fertile, and thickly populated, having a density of 231 persons per square mile. The area cultivated in 1903–4 was 272 square miles, paying Rs. 5,51,000 land revenue.

Twenty-four Parganas.—District in the Presidency Division of Bengal, lying between 21° 31′ and 22° 57′ N. and 88° 2′ and 89° 6′ E., with an area of 4,844 square miles, including 2,941 square miles in the Sundarbans. The District derived its name from the number of fiscal divisions (*parganas*) comprised in the *zamīndāri* of Calcutta, which was ceded to the East India Company in 1757, by Mīr Jafar, the Nawāb Nāzim of Bengal. It extends in a rectangular shape, some 50 miles in breadth, along the east bank of the Hooghly river from the Bāgher Khāl, 25 miles north of Calcutta, southwards to the sea. It is bounded on the north by the Districts of Nadiā and Jessore; on the east by Khulnā; on the west by the Hooghly river; and on the south by the Bay of Bengal. Calcutta covers an area of 32 square miles and is not included in the District, though the Collector of the Twenty-four Parganas is Collector of land revenue in Calcutta and exercises magisterial functions over the suburbs.

Physical aspects.

The District occupies the south-west corner of the Gangetic delta, and is divided into two tracts of very different characteristics by the boundary of the Sundarbans, which runs diagonally north-eastwards from a point on the western boundary near the head of Sāgar Island and cuts the eastern boundary in the latitude of Calcutta. South of this line extend the SUNDARBANS, a half-formed deltaic tract occupying three-fifths of the District, cut up by a network of tidal channels into innumerable islets, the more northerly of which are embanked and grow rich crops of rice, while a fringe along the coast is covered with mangrove scrub and forest. The northern tract is characteristic of the upper delta of Central Bengal, a land of dead and dying rivers, whose beds are out of reach of the scour of the tides, and of great rice swamps, which will never now be filled, because the rivers which should perform this office are locked into their channels by the high banks of silt which they have deposited.

Industrial activity is concentrated in a narrow strip of foreshore along the bank of the Hooghly river, extending from Budge-Budge,

a few miles below Calcutta, to the northern limits of the District. This river frontage is densely populated, and almost every yard of it is occupied either by jute-mills or by crowded bazars. Behind this strip the level drops, the drainage is obstructed, and the country is unhealthy and decadent until the eastern limits of the District are approached. Here the Jamunā river causes another rise in the surface; and this tract closely resembles Eastern Bengal, and is inhabited by sturdy Muhammadans who raise abundant sugar-cane and jute crops. In the north, the monotonous level of the rice swamps is broken only by the clumps of palms and fruit trees among which the village hamlets nestle. The broad reaches of the Hooghly are alive with traffic, from the lumbering barge to the swift dinghy and noisy steam launch, while the river banks present a diversified panorama of mill chimneys and brick factories, interspersed with Hindu temples and the gardens of country houses.

The river system is derived from the Ganges and its distributaries, each river forming the centre of a minor system of interlacing distributaries of its own. Many of these change their names at different parts of their course, re-enter their parent channels, and then break away again or temporarily combine with other rivers until they reach their final stage as estuaries as they near the sea. The principal rivers are the HOOGHLY, Bidyādharī, Piāli, and JAMUNĀ, all navigable by the largest native boats throughout the year, besides the great estuaries in the Sundarbans. These arms of the sea, proceeding from east to west, are the Raimangal, Mātla, Jāmira, and the Hooghly, or Burhā Mantreswar, as the mouth is locally called. The original course of the Hooghly was identical with the present Tolly's Nullah as far as Gariyā about 8 miles south of Calcutta, from which point it ran to the sea in a south-easterly direction. The old channel, which is still traceable for a considerable distance, has long ago dried up, and the bed now consists of a series of shallow pools. Many large Hindu villages are situated on the banks of the old stream, which is called the Adi or 'original' Gangā. The Bidyādharī is a tidal river which, after a circuitous course through the south-west of the District, flows into the Mātla estuary at PORT CANNING. The Piāli is a cross-stream from the Bidyādharī to the Mātla. The Jamunā flows across the north-east corner of the District and forms part of the eastern boundary. The so-called Salt-Water Lake is a low basin, east of Calcutta, which is slowly filling with silt deposited by tidal channels from the Bidyādharī. The Ballī swamp in the north-east of the District is being gradually drained and reclaimed.

The surface is covered by recent alluvium, consisting of sandy clay and sand along the course of the rivers, and fine silt consolidating into clay in the other parts of the river plain.

The stretches of low-lying land under rice cultivation afford a foothold for numerous marsh species, while the ponds and ditches are filled with submerged and floating water-plants. Remarkable among these, on account of its presence in Europe on the one hand and Australia on the other, is the floating *Drosera Aldrovanda*. The edges of sluggish creeks are lined with large sedges and bulrushes, and the banks of rivers have a hedge-like shrub jungle. The sides of embankments and village sites, where not occupied by habitations, are densely covered with shrubberies of semi-spontaneous species, often interspersed with clumps of planted bamboos and groves of *Areca*, *Moringa*, *Mangifera*, and *Anona*. A very large proportion of the grasses and weeds have been inadvertently introduced by human agency, and include European, African, and American species.

The Sundarbans contain many deer and tigers, and the estuaries swarm with crocodiles. In the north, leopards are occasionally met with, and there are a few wild hog.

The mean temperature for the year is 78°, varying from 66° in January to 86° in May. The highest mean maximum is 96° in April. The highest temperature recorded was 108° in 1901. Humidity is high throughout the year and rises to 90 per cent. in July. The normal rainfall for the year is 62 inches, of which 5·5 inches fall in May, 10·6 in June, 12·5 in July, 13·2 in August, 9·1 in September, and 5·3 in October. Less than 2 inches fall in each of the remaining months.

The cyclone of October, 1864, did immense damage in the south of the District. A storm-wave 11 feet high rushed over the Diamond Harbour subdivision, and the loss of life was estimated at 12,000. The earthquake of June, 1897, caused serious injury to masonry buildings in all parts of the District. The floods of September, 1900, resulted in widespread damage to the rice crops, especially in the ill-drained area between Calcutta and Diamond Harbour.

History.

In the dawn of history the country south of the Padmā between the Bhāgīrathi and the old course of the Brahmaputra was known as Vanga or Banga, a name since given to the whole Province. Its people are described in the *Raghubansa* as living in boats and as growing transplanted rice. The Twenty-four Parganas lay to the extreme south of this tract, and probably did not emerge from the waters of the Bay before the seventh century. Towards the end of the tenth century this country passed along with the rest of Bengal proper under the sway of the Sen dynasty, and in 1203 it was overrun by the Afghāns under Muhammad-i-Bakhtyār Khiljī. Nothing definite, however, is known of the District till 1495, when a Bengal poem mentions several still well-known riverside villages, including Calcutta, extending along the Adi Gangā river from Bhātpāra to Bāruipur.

In the sixteenth century the District formed part of the *sarkār* or division of Sātgaon, which embraced also portions of the present Hooghly and Nadiā Districts. Sātgaon on the Saraswatī, near the modern Hooghly, was at that time a great emporium of trade; but when the Portuguese began to frequent the Hooghly river, about 1530, their ships could not sail with safety above Garden Reach, and their goods were sent up to Sātgaon in small boats. As the Saraswatī silted up, Sātgaon lost its importance; and in the middle of the sixteenth century native traders came and settled at Gobindpur, the site of the present Fort William in Calcutta. The Portuguese also established a mart at Sūtānuti, the heart of modern Calcutta. A century later the English, who had meanwhile established a factory at Hooghly, were compelled to retire to Sūtānuti; but it was not until 1690 that the foundations of the present Calcutta were definitely laid by Job Charnock. The rebellion of Subha Singh, in 1696, gave the opportunity for fortifying the town, and it became thenceforth the stronghold of British influence in Bengal.

After the battle of Plassey in 1757, the Nawāb Nāzim of Bengal, Mīr Jafar, ceded to the East India Company a tract of country which lay principally to the south of Calcutta and comprised about 882 square miles, known as the *zamīndāri* of Calcutta, or the Twenty-four Parganas *zamīndāri*. Under this grant the Company acquired the rights of a *zamīndār*; and in the following year they obtained, from the emperor's chief revenue officer, a *dīwāni sanad*, which particularized the land held by them and fixed the assessment at Rs. 2,22,958. In 1759 the emperor confirmed the grant by a *farmān*, which gave the Company a perpetual heritable jurisdiction over the land. Meanwhile, by a deed of gift executed in 1759, Lord Clive had been presented, as a reward for services rendered by him to the Nawab Mīr Jafar, with the revenue of the District due from the Company; and this sum continued to be paid to him till his death in 1774, when, by a deed sanctioned by the Mughal emperor, the whole proprietary right in the land and revenues reverted to the Company.

BARRACKPORE cantonment, 15 miles north of Calcutta, played a part in two sepoy mutinies. In 1824 the 47th Regiment refused to start for Burma, fearing that they would be compelled to proceed by sea. European troops and artillery were marched from Calcutta, and the gunners opened fire upon the mutinous regiment, which broke and fled. Many of the mutineers were shot or hanged, and the regiment was disbanded. It was at Barrackpore that the first sparks of the Mutiny of 1857 were kindled. The story of Mangal Pānde's outbreak and of the disbandment of the 34th Regiment is too well-known to need repetition.

The rebellion of Titu Miān is not so well-known. This man be-

longed to the Wahhābi sect of Muhammadan fanatics, and was excited to rebellion in 1831 by a beard-tax imposed by Hindu landholders. He collected a force of insurgents, 3,000 strong, and cut to pieces a detachment of Calcutta militia which was sent against him. The Magistrate collected reinforcements, but they were driven off the field. Eventually the insurgents were defeated by a force of regulars, and their stockade was taken by assault.

With these exceptions, the history of the District since its cession in 1757 has been uneventful, and is principally a record of constant boundary changes. These were all in the direction of increase until 1882, by which date the area had grown to 5,593 square miles. The transfer of the Sātkhira subdivision to Khulnā in that year reduced the District to its present proportions.

Population.

The population of the present area increased from 1,581,448 in 1872 to 1,690,771 in 1881, to 1,891,288 in 1891, and to 2,078,359 in 1901. The birth- and death-rates are much lower than the mean for the whole of Bengal; a great preponderance of males is the reason for the low birth-rate, and a low death-rate is a corollary to a low birth-rate. Fever is responsible for the greater part of the deaths, but the mortality due to cholera is also considerable. The banks of the Hooghly are not unhealthy, as a good supply of drinking-water is obtained from the river, and the drainage passes easily to the low swamps to the eastward. The salt breezes from the Bay of Bengal prevent the growth of noxious undergrowth in the south, which is, however, liable to cholera owing to a deficient water-supply. The most unhealthy tract is the depressed area in the north, which is waterlogged owing to the silting up of the drainage channels, and mosquitoes breed freely in the stagnant pools which fester in all directions. The drinking-water is obtained from tanks polluted by surface drainage, and all the conditions favourable to the spread of the 'Nadiā fever' are present.

The principal statistics of the Census of 1901 are shown in the table on the next page.

No less than a fifth of the whole population is urban. COSSIPORE-CHITPUR, MĀNIKTALA, GARDEN REACH, SOUTH SUBURBS, and TOLLYGUNGE are suburban towns, which for the most part belonged to the Calcutta municipality until 1889. The head-quarters are at ALIPORE, within the limits of the Calcutta municipality. Other industrial towns are BARANAGAR (25,432) with KĀMĀRHĀTI adjoining it, NAIHĀTI with HĀLISAHAR and BHĀTPĀRA adjoining it, TITĀGARH, BUDGE-BUDGE, and GĀRULIA. BUDGE-BUDGE is south of Calcutta; but the remaining towns form, with South BARRACKPORE, North BARRACKPORE, and PĀNĪHĀTI, an almost unbroken line of river frontage northwards from Calcutta to near the confines of the District. North and South

Dum-Dum include the Dum-Dum cantonment and its neighbourhood, and Basīrhāt and Bārāsat are subdivisional head-quarters.

Subdivision.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Alipore . . .	1,164	6	1,683	671,269	577	+ 11·8	77,301
Suburbs of Calcutta	10	3	...	101,348	10,135	+ 15·8	17,433
Barrackpore* . .	190	11‡	163	206,311	1,086	+ 5·2	35,626
Bārāsat . . .	275	2	724	264,300	961		18,005
Basīrhāt . . .	1,922	3	920	372,187	194	+ 7·2	28,111
Diamond Harbour .	1,283	...	1,575	460,748	359	+ 14·4	56,035
Sundarbans† . .	...	...	17	2,196	...	− 64·2	109
District total	4,844	25	5,082	2,078,359	429	+ 9·9	232,620

* Barrackpore subdivision was formed out of parts of the head-quarters and Bārāsat subdivisions in 1904.

† Most of the population of the Sundarbans has been included in the figures for the head-quarters and Basīrhāt subdivisions, within which the Sundarbans lie. There are a few wood-cutters, &c., for whom separate census arrangements were made.

‡ Excluding Hālisahar, which was constituted a separate municipality in 1903.

The growth of the population has not been uniform throughout the District. The north-central *thānas* are stationary or decadent, owing to defective drainage and malarial conditions which are driving the inhabitants into Calcutta. On the other hand, a remarkable expansion has taken place in the industrial tract on the bank of the Hooghly river, while the rapid progress of reclamation has attracted numerous settlers to the Sundarbans. During the last decade the riparian population has grown by 12 per cent., and the Sundarbans population by no less than 24 per cent.; on the other hand, the northern and central *thānas* have remained stationary. The population is very dense along the Hooghly to the north of Calcutta; but the density for the whole District is low, owing to the inclusion of the sparsely inhabited Sundarbans, which cover 2,941 square miles, or three-fifths of its area.

The main tide of migration sets from the eastern Districts of the United Provinces and from Bihār to the mills on the banks of the Hooghly. A large number of labourers cross annually from Midnapore to Diamond Harbour, and are employed as harvesters or in repairing embankments and clearing jungle in the Sundarbans. A number of immigrants from Chotā Nāgpur have also settled in the Sundarbans, where they are known as Bunās. No less than 10 per cent. of the population enumerated in 1901 were born outside the District, and there were more than two males for every female immigrant. As a consequence, there are only 902 females to every 1,000 males of the population. Bengali is the language spoken by the natives of the

District. Hindus number 1,310,151 or 63 per cent. of the total, and Musalmāns 753,260 or 36 per cent.; the latter are most numerous in the north-east, where they actually outnumber the Hindus. Christians (14,000) are more numerous than in any other Bengal District except Rānchī, and Europeans (3,000) more numerous than in any other District.

The castes most largely represented are aboriginal. The Pods (295,000) are numerically the most important and are divided into two classes, the Padma Rāj, or Vrātya Kshattriya, living by cultivation and regarding themselves as superior to the fishing Pods. Similar in rank and origin are the Kaibarttas (207,000), who again claim to be divided into a higher class known as the Chāsi or Māhisya, and a lower, the Jaliyā. The Bāgdis (94,000) are another non-Aryan community. Among the Aryan castes, Brāhmans (77,000), Ahīrs (64,000), and Kāyasths (34,000) are the most numerous. Of the remainder, Tiyars (fishermen), Nāpits (barbers), Muchis (leather-dressers), and Sadgops, a cultivating caste, are well represented. The Kaorās (63,000) are a low caste, of criminal proclivities, who largely man the ranks of the village watch. Nearly all the Musalmāns are Shaikhs (574,000) or *ajlāf* (122,000). These, with the functional castes, e.g. Jolāhās (18,000), are probably descendants of converts, as distinguished from the immigrant Pathāns (14,000) and Saiyids (8,000). Out of every 100 persons, 62 are dependent on agriculture, 18 on industry, and 1 on commerce, while 2 belong to the professional classes.

Of the 14,000 Christians, 11,000 are natives of India; of these, 4,000 belong to the Anglican communion, 2,800 are Roman Catholics, and the remainder are Baptists, Congregationalists, or Methodists. Missionary effort dates from the beginning of the nineteenth century, and has met with most success among the aboriginal castes in the south of the District. A large number of sects and denominations are at work. They have several masonry churches, and their educational work is especially important. The Church of England is represented by the Society for the Propagation of the Gospel and the Church Missionary Society. The former commenced work in 1823. Both are engaged in pastoral and educational work; and, under the auspices of the former Society, the Clewer Sisters maintain 30 girls' schools in the Sundarbans. The London Missionary Society maintains two high schools at Bhawānīpur, and a first-grade college as well as elementary schools. The Baptist Missionary Society, the Wesleyan Mission, the American Methodist Church, the Women's Union Missionary Society, and the Church of Scotland also carry on important work. The Roman Catholic Church conducts missionary and educational work in the Sundarbans.

The surface of the District has been formed by recent alluvial

deposits; and, with the exception of strips of high land along the banks of the rivers, the whole country is low and swampy, and tends to become waterlogged whenever the rainfall is in excess. This is especially the case with the great basin shut in between the Diamond Harbour Railway and the Hooghly embankments, as well as the similar tract east of the Eastern Bengal State Railway and the Ballī *bīl*. In these cases the drainage channels are inadequate to remove any excessive rainfall.

Agriculture.

The main agricultural statistics for 1903-4 are shown below, areas being in square miles:—

Subdivision.	Total.	Cultivated.	Cultivable waste.	Forests.
Alipore . . .	1,164	634	167	317
Suburbs of Calcutta	10	5	2	..
Barrackpore . .	190	132	27	...
Bārāsat . . .	275	193	39	...
Basīrhāt . .	1,922	336	275	1,140
Diamond Harbour .	1,283	363	184	301
Total	4,844	1,663	694	1,758

The only crops of real importance are rice and jute, the former occupying 1,517 and the latter 125 square miles. The winter rice crop, which accounts for nearly four-fifths of the total cultivated area, is usually transplanted. Pulses are largely grown in the winter, and sugar-cane occupies a considerable area in the north-east.

Cultivation is spreading very rapidly in the Sundarbans, and all over the District the swamps are being gradually drained and reclaimed. Under the Land Improvement Loans Act money is occasionally borrowed for the construction of embankments in the Sundarbans, and, after the floods of 1900, about Rs. 21,000 was lent to the sufferers to enable them to purchase cattle and seed-grain.

The cattle belong to the degenerate breeds common in Lower Bengal. They are deteriorating, owing to the cultivation of pasture lands and to the abandonment of the practice of dedicating bulls, which are no longer allowed to breed unmolested, but are sold in the towns for cart-work. Diminutive goats are numerous, but ponies, sheep, and buffaloes are scarce. Important fairs are held at SĀGAR ISLAND in January, and at HĀRUA at the end of February. In November the Mārwāris hold a gathering at the Pinjrāpol, 15 miles north of Calcutta, where they maintain an asylum for broken-down cattle. A veterinary college has been established at Belgāchia.

Water from tanks and roadside ditches is employed to a trivial extent in irrigating sugar-cane and garden crops; but as cultivation suffers far more frequently from too much than from too little water, artificial irrigation is but little used.

Forests.

A tract on the southern face of the Sundarbans forms a 'protected' forest; but cultivation is rapidly encroaching upon it, and no less than 448 square miles were disforested during the decade ending 1903-4, leaving 1,758 square miles as the present area. The principal timber trees are *garān* (*Ceriops Candolliana*), *geoā* (*Excoecaria Agallocha*), and *keorā* (*Sonneratia apetala*), while among minor forest produce may be reckoned *golpāta* (*Nipa fruticans*), *hantāl* (*Phoenix paludosa*), reeds, honey, wax, and shells used for making lime. The forest receipts in 1903-4 amounted to Rs. 50,000, and the expenditure was Rs. 18,000. The receipts on account of the produce of leased lands amounted to Rs. 23,000.

Trade and communications.

No hand industries of any importance are carried on. Imitation locks are made at Nātāgarh, and brushes and combs, cheap shoes, and common embroidery are manufactured. A little cotton is woven, and knives, utensils, and mats are made. Small sugar factories exist in the north of the District, but the industry is declining. Tanneries and soap manufacture exhaust the list of hand industries.

Factory industries are important, as the proximity of the Port of Calcutta and the many means of communication with the interior, by both rail and river, afford special facilities to manufacture on the banks of the Hooghly. In 1903 as many as 75 out of the 259 factories in Bengal were situated in the Twenty-four Parganas, and at the end of 1904 there were 79 factories at work, employing 124,000 hands. The list of industries is a long one, as it includes jute-pressing and weaving, cotton-spinning, paper-making, sugar-refining, ship-building; the manufacture by Government of arms and ammunition, of uniforms for the troops, and of telegraph stores; soap-making, iron-founding, leather-tanning, rope-spinning, shellac manufacture, bone-grinding, oil-pressing, brick-making, and the refinement of saltpetre. Petroleum is also stored in bulk and subsequently filled in tins at Budge-Budge.

The operatives are largely up-country men, and they are for the most part miserably housed in crowded hovels; but factory owners have done much of late years to ameliorate the conditions of their life by improving the water-supply and by constructing wholesome dwellings for them.

By far the most important industries are the weaving of jute into gunny-bags and the pressing of the raw product for export. The manufacture of gunnies has been largely diverted of late years from Dundee to the banks of the Hooghly, and nearly one-third of the jute crop is now manufactured in Bengal. The first start was made about forty years ago, but most of the mills have been opened since 1880. In 1904 the District contained 24 jute-mills, employing 84,000 hands; they possessed nearly 12,000 looms, and their out-turn was valued at

nearly 6 crores of rupees, or 4 millions sterling. The jute-presses are found in the northern suburbs. The industry started in 1873, and in 1904 as many as 11 presses were at work, employing over 8,000 hands. There are 5 cotton-mills, which manufacture cotton yarn or twist for the local and China markets. The industry dates from 1875 and employs 5,000 operatives; the out-turn in 1901 was 5,700 tons of yarn, valued at nearly 33 lakhs.

Two paper-mills, employing 2,000 hands, had in 1903–4 an out-turn of 8,778 tons, valued at nearly 27 lakhs; and there are also 2 lac factories with 500 operatives. The remaining industries are of minor importance; they include a soap factory, 4 iron-works, 2 ice factories, 2 oil-mills, 1 silk factory, 1 rice-mill, 1 sugar factory, and 4 saltpetre refineries. Besides these, the Government maintains a small-arms and ammunition factory at Dum-Dum, a foundry and shell factory at Cossipore, and a rifle factory at Ichāpur.

The only articles imported by rail in any quantity are coal from Rānīganj and Mānbhūm District, jute from East and North Bengal, and linseed from Calcutta and Bihār; the coal and jute go to the mills. Raw cotton is obtained by the mills from Berār and the Central Provinces, rice from Backergunge, Burdwān, and Khulnā, and paddy (unhusked rice) from Bīrbhūm and Bogra. Some gram and pulses are imported from Nadiā and Jessore, and a little sugar comes from the latter District. Imported kerosene oil is sent up-country from Budge-Budge, a certain amount of rice is exported to Calcutta, and gunny-bags manufactured in the mills are dispatched to Calcutta and up-country. The water communications are excellent and carry an extensive trade in country produce. A considerable export takes place by road into Calcutta of animals, vegetables, &c., as well as of straw, bricks, bamboos, and other local products and manufactures.

The Eastern Bengal State Railway runs from Calcutta to the northern boundary of the District, and the central section of that railway follows a north-easterly course through Bārāsat and Hābra towards Jessore. Other lines run from Calcutta to Budge-Budge, Diamond Harbour, and Port Canning; and a light railway from Basīrhāt to Bārāsat has recently been opened. The total length of railways in the Twenty-four Parganas is about 158 miles.

Including 993 miles of village roads, the District contains 1,344 miles of unmetalled and 241 miles of metalled roads maintained by the District board. The grand trunk road runs north from Calcutta along the river bank to Paltā (14 miles), where the Hooghly is crossed by a ferry and the road passes to the west bank of the river. The Plassey road continues north along the east bank to the boundary of the District. The Jessore road passes through Dum-Dum and Bārāsat, and maintains a north-easterly direction to the District boundary. The

roads south of Calcutta are the Diamond Harbour road, the Orissa trunk road which crosses the Hooghly by a ferry at Achipur, and the Bistupur road which runs due south, through Bāruipur, for 29 miles. The chief east and west cross-roads are the Tāki road from Bārāsat to Basīrhāt, along which a light railway with 8 stations has been laid, and the continuation of this road westwards to Barrackpore. The Calcutta Electric Tramways extend in the Twenty-four Parganas District for half a mile along the Jessore road to Belgāchia, and for the same distance southwards to Tollygunge.

The CALCUTTA AND EASTERN CANALS, which form the waterway by which the rice of Eastern Bengal is poured into Calcutta, have their terminus at Dhāpa, 5 miles east of Fort William. The inception of the system is due to Major Tolly, who in 1777 canalized an old bed of the Ganges, called after him TOLLY'S NULLAH, which connects Kidderpore with the Bidyādharī river. There are now three great routes between Calcutta and the chief rice-growing Districts. The one generally used is the Inner Sundarbans Passage, which, starting from Dhāpa, follows the Beliāghāta and Bhāngar canals, and thence passes by the Sibsā river to Khulnā. The Outer Sundarbans Passage, which is used by heavily laden boats, runs from Sāmukpotā, 20 miles south-east of Calcutta, along the Bidyādharī river to Port Canning and then strikes to the north-east; it is connected with the south of Calcutta by Tolly's Nullah, and with the north of that city by the Beliāghāta and Circular Canals. The third route is the steamer route to Goalundo and Chāndpur, which proceeds down the Hooghly to Mud Point, and thence turns eastwards by the Bārātala Creek between Sāgar Island and the mainland, and works its way through various creeks and channels to Barisāl. Passenger steamers ply on the Hooghly from Calcutta to Naihāti, from Calcutta to Kākdwīp on the mainland opposite Sāgar Island, and from Diamond Harbour to Tengrā. Steamers also traverse the Ichāmatī and Jamunā rivers from Tāki to Chārghāt, 4 miles from Gobardānga. Much of the traffic is carried on by large boats from the eastern Districts. The local boat is called *pānsi*, but on the narrow and shallow waterways most of the work is done with dug-outs known as *dongās* or *sāltis*.

There are 53 ferries under the control of the District board, the most important being the Uttarbhāg ferry across the Piāli river, the Hājīpur ferry across the creek at Diamond Harbour, and the Budge-Budge and Charāmādāri ferries across the Hooghly. Other ferries on

Magistrate-Collector, a Joint-Magistrate, an Assistant Magistrate, and 9 Deputy-Magistrate-Collectors. The suburbs of Calcutta are policed by the Calcutta force, but cases are tried at police courts at Alipore and Sealdah by two Deputy-Magistrates subordinate to the District Magistrate of the Twenty-four Parganas. The Barrackpore subdivision is in charge of a member of the covenanted civil service, and each of the other subdivisions of a Deputy-Magistrate-Collector, the subdivisional officer at Basīrhāt being assisted by one Sub-Deputy-Collector and at Diamond Harbour by two Sub-Deputy-Collectors. The Collector of the Twenty-four Parganas is *ex-officio* Collector of land revenue in Calcutta, but the revenue is collected by an officer styled the Deputy-Collector of land revenue, who is also the Collector of stamp revenue and Superintendent of excise revenue in Calcutta and in so much of the District as is under the jurisdiction of the Calcutta police; in these functions he is independent of the Collector of the Twenty-four Parganas. An Assistant Inspector-General of Government railway police is stationed at Sealdah.

Administration.

The civil courts are those of the District and Sessions Judge, 2 Additional District and Sessions Judges, of whom one is also Additional Judge of Hooghly and the other is a special land-acquisition judge, 4 Sub-Judges at Alipore, of whom 2 are permanent and 2 are temporary, a Small Cause Court Judge at Sealdah, and 15 Munsifs, of whom 3 are stationed at Alipore, 4 at Diamond Harbour, and 2 each at Sealdah, Bārāsat, Basīrhāt, and Bāruipur. For criminal work, in addition to the courts of the Judge, Additional Judge, the District Magistrate, and the stipendiary magistrates, a Cantonment Magistrate deals with cases in the Barrackpore and Dum-Dum cantonments and the Station Staff Officer with those in Alipore. The large number of dacoities is a feature of the criminal administration of the District, while the Diamond Harbour subdivision is notorious for the number of wreckers and cattle-thieves it contains.

The current demand for land revenue in 1903–4 was 16·88 lakhs, payable by 2,012 estates, of which 1,696 with a demand of 12·64 lakhs were permanently settled, and 302 paying Rs. 1,07,000 were temporarily settled, the remainder being held direct by Government. The District contains a large area managed direct by Government, and the whole of the Sundarbans is so dealt with. The most interesting estate is PANCHĀNNAGRĀM, which comprises most of the suburbs of Calcutta. It is bounded on the north by the Baranagar estate, which was acquired by treaty from the Dutch in 1795. The Sāhibān Bāgīcha is a Government estate formed in 1790 of garden houses occupied by Europeans.

Rents are high. Rice lands in the head-quarters and Bārāsat subdivisions are rented at from Rs. 6 to Rs. 12 an acre, but lower rates prevail in the other two subdivisions. Homestead and sugar-cane

lands fetch from Rs. 10 to Rs. 20 an acre. The gross rental of the District, as ascertained from the road and public works cess valuation rolls, is 72·51 lakhs, or more than four times the land revenue. The cultivated area in 1903–4 was estimated at 1,663 square miles, and the incidence of the gross valuation per acre is therefore Rs. 6–13, of which only Rs. 1–9 reaches the treasury. These figures are much above those for Bengal as a whole, where the average rental is only Rs. 3–1 and the revenue only 13 annas per cultivated acre. In the Government estates in Diamond Harbour the average size of a holding varies from 2½ to 8 acres. The general average for the District is probably from 3 to 4 acres, but in the Sundarbans holdings are considerably larger.

The following table shows the collections of land revenue and of total revenue (principal heads only), in thousands of rupees :—

	1880–1.*	1890–1.	1900–1.	1903–4.
Land revenue . .	16,92	16,02	16,13	16,61
Total revenue. .	27,89	29,89	32,60	36,24

* In 1880–1 the District included the Sātkhira subdivision, which was subsequently transferred to Khulnā.

The District contains 26 municipalities, and their inspection and control occupy much of the District officer's time and energies. Outside municipal areas, local affairs are managed by a District board, with subdivisional local boards and three village unions at Bāsudebpur, Itindā, and Jadurhātī. The income of the District board in 1903–4 was Rs. 2,89,000, including Rs. 1,59,000 derived from rates; and the expenditure was Rs. 2,92,000, of which Rs. 1,78,000 was spent on public works and Rs. 60,000 on education. The District board has guaranteed interest at the rate of 4 per cent., up to a maximum of Rs. 38,000 per annum, on the light railway from Bārāsat to Basīrhāt.

The Public Works department maintains 222 miles of embankments, of which 216 miles were constructed, and are kept in repair, at Government expense. The main embankment has a total length of 194 miles, and runs southwards along the left bank of the Hooghly river from Akra a few miles below Calcutta to Rāngāfala near the head of Sāgar Island; thence it branches east and north to Sāmukpotā, and terminates at Gariyā 8 miles south of Calcutta. This embankment protects a tract of 716 square miles in the south-west of the District from inundation by the Hooghly and other rivers. Drainage is provided for by numerous sluices, of which 13 are on a large scale. The Chariāl works drain a large area near Budge-Budge, and the Sātpukur, Kālpi, and Tengrābichi works drain a considerable tract in the south of the Diamond Harbour subdivision, while the Ballī *bīl* in the north-east of the District is drained by a channel with a sluice at Tetuliā. Large schemes have

also been projected for draining the area protected by the embankments. A lighthouse is situated on Sāgar Island.

The suburbs of Calcutta are policed by a force under the orders of the Commissioner of Police, Calcutta. His jurisdiction embraces the Cossipore-Chitpur, Māniktala, and part of the Garden Reach municipal areas, as well as the fringe east and south of the Lower Circular Road and Tolly's Nullah, which is within the Calcutta municipality but under the authority of the Magistrate of the Twenty-four Parganas. The suburbs are divided into two divisions, the northern and southern, each under a Superintendent. The suburban force consisted in 1903, in addition to the Superintendents, of 68 officers, 633 constables, and 7 boatmen.

Outside the suburbs, the District contains 26 police stations and 9 outposts, as well as 37 town outposts, 3 mill outposts, 3 cantonment outposts, and one beat-house. The town outposts are manned partly by police constables, and partly by town *chaukīdārs*. The District Superintendent is provided with a steam-launch, and 7 police boats patrol the waterways. The force consists of a District Superintendent, an Assistant Superintendent, 8 inspectors, 71 sub-inspectors (including one European), 127 head constables, 1,019 constables, and 148 town *chaukīdārs*. A special force of 15 head constables is employed for nine months in the dry season, to accompany the officers of the Salt department on searches. The rural police number 350 *daffadārs* and 3,423 *chaukīdārs*; and the District is divided into 349 Unions, each of which is manned by a *daffadār* and from 7 to 13 *chaukīdārs*.

The ALIPORE District and Central jail has accommodation for 1,837 prisoners, and a District jail at BĀRĀSAT for 130 prisoners; subsidiary jails at Diamond Harbour and Basīrhāt each hold 12 prisoners, while that at Barrackpore holds 14. A reformatory school at Alipore provides accommodation for 226 boys.

Education is more advanced than in most Bengal Districts. In 1901, 11·2 per cent. of the population (20·2 males and 1·3 females) could read and write. The number of pupils under instruction increased from 52,000 in 1883–4 to 68,138 in 1892–3 and 73,021 in 1900–1. In 1903–4, 79,860 boys and 7,727 girls were at school, being respectively 42·5 and 5·2 per cent. of the children of school-going age. The number of educational institutions, public and private, in that year was 1,953, comprising 125 secondary, 1,788 primary, and 40 special schools. The expenditure on education was 3·86 lakhs, of which Rs. 52,000 was met from Provincial revenues, Rs. 60,000 from District funds, Rs. 11,000 from municipal funds, and 1·97 lakhs from fees.

In 1903 the District contained 36 dispensaries, of which 12 had accommodation for 195 in-patients. The cases of 184,000 out-patients and 3,404 in-patients were treated in 1903, and 12,017 operations were

performed. The expenditure was Rs. 71,000, of which Rs. 12,000 was met from Government contributions, Rs. 20,000 from Local and Rs. 22,000 from municipal funds, and Rs. 7,000 from subscriptions.

Vaccination is compulsory only within municipal areas. In 1903-4 the number of persons successfully vaccinated was 62,000, representing 30 per 1,000 of the population.

[Sir W. W. Hunter, *Statistical Account of Bengal*, vol. i (1875).]

Tyāga Durgam.—A small fortified hill in the Kallakurchi *tāluk* of South Arcot District, Madras, situated in 11° 45′ N. and 79° 5′ E., about 7 miles east of Kallakurchi town, at the intersection of the old road from Arcot to Trichinopoly with the road from Salem to Cuddalore. Its position on these main routes made it formerly of great strategical importance, and it was regularly fortified and garrisoned. Like the fortress of Tiruvannāmalai, it formed one of the bulwarks of the District against invasion from the west, and was the scene of much hard fighting in the Carnatic Wars. Between 1757 and 1780 it was regularly invested five times and blockaded once, and it repeatedly changed hands between the English, the French, and the Mysore ruler. It formed the rendezvous of Haidar's troops before joining Lally at Pondicherry, and here they again collected when retreating before Coote. In 1790 Captain Flint repulsed the attack made on the town by Tipū. The hill consists of two knolls or bosses, at the foot of one of which is a pool of excellent water under an overhanging rock partly surrounded by a low masonry wall. This water is said never to go dry, and during the exceptionally rainless season of 1876 there was a good supply in it when drinking-water was difficult to get in the village below. The village, which is built round the hill, is known by the same name. It is a Union under the Local Boards Act, with a population (1901) of 4,125.

Tyāmagondal.—Town in the Nelamangala *tāluk* of Bangalore District, Mysore, situated in 13° 12′ N. and 77° 18′ E., 2 miles from Dodbele railway station. Population (1901), 4,099. The town grew to its present dimensions owing to the settlement here of inhabitants who deserted Nijagal, a few miles to the north-west. It contains many merchants and traders in grain. The municipality dates from 1870. The receipts and expenditure during the ten years ending 1901 averaged Rs. 2,300. In 1903-4 they were Rs. 2,700 and Rs. 2,000.

Ubauro.—*Tāluka* of Sukkur District, Sind, Bombay, lying between 27° 48′ and 28° 26′ N. and 69° 36′ and 70° 14′ E., with an area of 466 square miles. The population rose from 40,923 in 1891 to 43,098 in 1901. The *tāluka* contains 79 villages, of which Ubauro is the headquarters. The density approximates to the District average. Land revenue and cesses amounted in 1903-4 to about 2 lakhs. The *tāluka*

receives a very uncertain supply of water from the Mahi Wah, and the cultivators are rather less prosperous than in other parts of Sind. There is a large area of *jāgīr* land within the *tāluka*.

Uch (*Uchh*='high place').—Town in the Ahmadpur *tahsīl* of the Bahāwalpur State, Punjab, situated in 29° 14′ N. and 71° 4′ E., 38 miles south-east of Bahāwalpur town, on the south bank of the Sutlej opposite its confluence with the Chenāb. Population (1901), 7,583. The municipality had an income in 1903–4 of Rs. 2,000, chiefly from octroi.

Archaeologically and historically Uch is a place of great interest. Sir Alexander Cunningham identified it with the city which Alexander the Great built near the meeting of the Punjab rivers. He believed that it is also the town mentioned by Rashīd-ud-dīn as the capital of one of the four principalities of Sind under Ayand, the son of Kafand. This identification is, however, far from certain. Uch was in the twelfth century known as Deogarh, 'the gods' stronghold'; and its ruler, Deo Singh, fled to Mārwār when the great Muhammadan missionary and saint Saiyid Jalāl-ud-dīn Bukhāri came to the place, converted Sundarpuri, Deo Singh's daughter, to Islām, and bade her build a fort called *uchha* or *uchh* ('high'). Since then it has been known to Muhammadans as Uch-i-Sharīf or 'Uch the Sacred.' In spite of its undoubted antiquity, Uch is not mentioned by the earlier Muhammadan historians under that name. Raverty, however, identified it with the town of Bhātiāh near Multān, mentioned by the historians of the Ghaznivid period as taken by Mahmūd of Ghazni in 1006. Subsequently recaptured by Muhammad of Ghor, it became the chief city of Upper Sind under Nāsir-ud-dīn Kubācha, and was burnt by Jalāl-ud-dīn Khwārizmi in 1223. It was afterwards taken by Altamsh. Uch was a great centre of Muhammadan learning; for in 1227 we find Minhāj-ud-dīn, the Persian historian, made chief of the Fīrozi college there. Changes in the courses of the rivers gradually robbed it of its strategic importance; and after many vicissitudes it was permanently annexed to the Mughal empire under Akbar, being included by Abul Fazl among the separate districts of the *Sūbah* of Multān. Uch is now a group of three villages, built on as many mounds, the débris of successive cities. It is still a place of great religious sanctity in the eyes of Muhammadans, and contains countless shrines, in charge of the Bokhāri and Gilāni Makhdūms, who are descended from its original founders. Sir A. Cunningham compiled an interesting but unreliable account of Alexander's operations in the country round Uch.

[A. Cunningham, *Ancient Geography of India*, pp. 242–8.]

Uchad.—Petty State in REWĀ KĀNTHA, Bombay.

Udaipur State (1).—Tributary State in the Central Provinces, lying between 22° 3′ and 22° 47′ N. and 83° 2′ and 83° 48′ E., with an

area of 1,052[1] square miles. Till 1905 it was included in the Chotā Nāgpur States of Bengal. It is bounded on the north by Surgujā; on the east by Jashpur and Raigarh; on the south by Raigarh; and on the west by the District of Bilāspur. On the north it is walled in by the great plateau of Mainpāt in Surgujā, which rises to a height of 3,781 feet above the sea. From the edge of this table-land, which forms the watershed for streams running north and south, a steep descent of 1,500 feet leads down to the fertile valley of the river Mānd, and is continued in a succession of terraces to Raigarh on the southern boundary of the State. The chief geological formation of Udaipur is a coarse carboniferous sandstone, appearing on the west in a low range of hills which divides the small river Koergā from the Mānd. Coal, gold, iron, mica, laterite, and limestone exist, but no regular investigation has yet been made into the mineral resources of the State. A coal-field situated 2 miles east of Dharmjaygarh is worked for brick burning, and lime is extracted from a limestone quarry about 8 miles north-east of the town. The only hill of any size is Lotta (2,098 feet). The Mānd river, which rises in Surgujā and receives the drainage of the southern face of the Mainpāt plateau, follows a winding course towards the south-west and joins the Mahānadī in Raigarh. Its channel is deeply cut through the sandstone rocks in a series of alternate rapids and pools, and the river is not navigable in any part of its course within Udaipur. The scenery is wild; and forests, which are at present of no great marketable value owing to the want of good means of communication, cover the greater portion of the State. The principal trees are *sāl* (*Shorea robusta*), *mahuā* (*Bassia latifolia*), *kusum* (*Schleichera trijuga*), and *tendu* (*Diospyros melanoxylon*). The jungles contain tigers, bears, leopards, wild hog, bison, and several kinds of deer; wild elephants occasionally stray in from the south.

Udaipur, in common with the rest of the Surgujā group of States, was ceded to the British Government by the provisional agreement concluded with Mudhojī Bhonsla (Appa Sāhib) in 1818. Ever since the conquest of Surgujā by the Raksel Rājputs, Udaipur formed an apanage of a younger branch of the reigning family in that State; and at the time of its transfer to the British, Kalyān Singh, then chief of Udaipur, paid tribute through Surgujā. In 1852 the chief and his two brothers were convicted of manslaughter and sentenced to imprisonment, and Udaipur escheated to Government. At the time of the Mutiny in 1857 the former chief and his brothers made their way back to Udaipur and established a short-lived rule. In 1859 the survivor of the two brothers was captured, convicted of murder and rebellion, and transported for life to the Andaman Islands. Subse-

[1] This figure, which differs slightly from the area shown in the *Census Report* of 1901, was supplied by the Surveyor-General.

quently, in 1860, the State was conferred on a brother of the chief of Surgujā, who had rendered good service during the Mutiny. His grandson, the present Rājā, is a minor, and the State is under Government management. The capital is DHARMJAYGARH.

The recorded population rose from 37,536 in 1891 to 45,391 in 1901; this large increase is due partly to a more accurate enumeration, and partly to the country having been rendered more accessible by the opening of the Bengal-Nāgpur Railway. The population is contained in 196 villages, and the density is 43 persons per square mile. Hindus number 41,373 and Animists 3,897. The aboriginal Kaurs (18,000) are the most numerous tribe, but the Bhuiyās, Chiks, Gonds, Majwārs, Mundās, Oraons, and Pāns, with from 4,000 to 2,000 each, are also well represented. About three-fourths of the population are agriculturists, and the majority of the remainder are labourers indirectly dependent on agriculture. The staple food-grain is rice, supplemented by maize and various pulses. Rice, *mahuā*, *chiranji* (an edible oily nut like the pistachio), horns, hides, wax, lac, and *ghī* are exported; and salt, tobacco, cotton cloth, *gur*, and spices are imported.

The relations of the chief with the British Government are regulated by a *sanad* granted in 1899, and reissued in 1905 with a few verbal changes due to the transfer of the State to the Central Provinces. Under this *sanad* the chief was formally recognized and permitted to administer his territory subject to prescribed conditions, and the tribute was fixed for a further period of twenty years, at the end of which it is liable to revision. The chief is under the general control of the Commissioner of Chhattīsgarh as regards all important matters of administration, including the settlement and collection of land revenue, the imposition of taxes, the administration of justice, arrangements connected with excise, salt, and opium, and disputes in which other States are concerned; and he cannot levy import and export duties or transit dues, unless they are specially authorized by the Chief Commissioner. He is permitted to levy rents and certain other customary dues from his subjects, and is empowered to pass sentences of imprisonment up to five years and of fine to the amount of Rs. 200; but sentences of imprisonment for more than two years and of fine exceeding Rs. 50 require the confirmation of the Commissioner. Heinous offences calling for heavier punishment are dealt with by the Political Agent, Chhattīsgarh Feudatories, who exercises the powers of a District Magistrate and Assistant Sessions Judge; the Commissioner occupies the position of a Sessions Court in respect of such cases, while the functions of a High Court are performed by the Chief Commissioner.

The total revenue of the State in 1904–5 was Rs. 93,000, of which

more than half was derived from maintenance grants called *khorposhdāris* in the Sirgujā State; Rs. 54,000 was derived from land, and Rs. 20,000 from forests. The total expenditure was Rs. 78,000, of which Rs. 37,000 was spent on administration, Rs. 11,000 on domestic charges, and Rs. 13,000 on public works. The tribute payable to Government is Rs. 800. The current land revenue demand in the State itself is Rs. 17,500. The collection of revenue is effected as a rule through *gaontiās* or headmen, who have no proprietary rights; but, in practice, villages generally pass from father to son. The State maintains a salaried police force of 7 officers and 50 men, in addition to the village police, who are remunerated by grants of land; the cost of maintaining the former in 1904-5 was Rs. 4,500. There is a jail at Dharmjaygarh with accommodation for 50 prisoners, and a dispensary at which 5,700 patients, both indoor and outdoor, were treated in the same year; a new hospital has also recently been built. Altogether 215 miles of roads are now maintained by the State. In 1901 only 229 persons were able to read and write; but since the management of the State was undertaken by Government, 4 primary schools have been opened. In 1904-5 there were 9 schools with an attendance of 250 pupils. In the same year 1,340 persons were successfully vaccinated.

Udaipur State (2) (also called Mewār).—State situated in the south of Rājputāna, between 23° 49′ and 25° 58′ N. and 73° 1′ and 75° 49′ E., with an area of 12,691 square miles. It is bounded on the north by the British District of Ajmer-Merwāra and the Shāhpura chiefship; on the west by Jodhpur and Sirohi; on the south-west by Idar; on the south by Dūngarpur, Bānswāra, and Partābgarh; on the east by Sindhia's district of Nīmach, the Tonk district of Nīmbahera, and the States of Būndi and Kotah; and on the north-east by Jaipur. In the centre of the State lies the Gwalior *pargana* of Gangāpur, comprising 10 villages; towards the east is the Indore *pargana* of Nandwās with 29 villages; and in the south-east the territories of several States interlace, while portions of Gwalior, Indore, and Tonk are encircled on all sides by Mewār. Similarly, numerous patches of Mewār territory are entirely separated from the main body of the State: namely, one in Shāhpura on the north, another in Jodhpur on the north-west, a third in Idar on the south-west, and several in Gwalior on the south-east and east.

Physical aspects.

The northern and eastern portions of the State consist of an elevated plateau of fine open undulating country sloping gradually to the north-east, while the southern and western portions are entirely covered with rocks, hills, and dense jungle. The whole of the mountainous country in the south-west is politically known as the Hilly Tracts of Mewār, and embraces the wildest portion of the ARĀVALLI HILLS. This range enters the

State from Merwāra at a height of 2,383 feet above sea-level, and is at first only a few miles in breadth; but continuing in a south-westerly direction along the Mārwār border it gradually increases in height and extends over the south-western portion of the State, where it attains a breadth of about 60 miles. The highest peak is 4,315 feet above the sea, at 24° 58′ N. and 73° 31′ E. In the south-eastern corner a range of hills runs from Barī Sādri to the Jākam river, while to the east of Chitor is a series of hills, all running north and south, and forming narrow confined valleys parallel to each other. The two highest points are just over 2,000 feet above the sea, but the average height is about 1,850 feet. On the eastern border is the cluster of hills on which the fort of Māndalgarh is situated, the starting-point of the central Būndi range, and in the north-east corner is another distinct range extending to the town of Jahāzpur. The principal rivers are the CHAMBAL and its tributary the BANĀS. The former flows for only a few miles through the State in the east near Bhainsrorgarh, where it is joined by the Bāmani. The Banās rises in the Arāvalli Hills near Kūmbhalgarh, and after a course of about 180 miles, generally east-by-north-east, leaves the State not far from the cantonment of Deoli. Its chief affluents in Mewār are the Berach and the Kothāri. The former rises in the hills north of Udaipur city, and till it flows into the Udai Sāgar, a lake close to the capital, is usually called the Ahār, after the village of that name. After leaving the Udai Sāgar it flows east-by-north-east past Chitor, and eventually joins the Banās near Māndalgarh after a total course of about 130 miles. The Kothāri rises in the hills near Dewair, and flows for about 90 miles almost due east across the plains before it falls into the Banās. Other rivers are the Khāri in the north, and the Som and its tributary the Jākam in the south.

Numerous lakes and tanks are scattered throughout the State, the finest being the DHEBAR or Jai Samand, the Rāj Samand at Kankroli, and the Udai Sāgar, the Pichola, and the Fateh Sāgar at or near the capital.

The rocks of Udaipur consist for the most part of schists belonging to the Arāvalli system. To the east and south-east of Udaipur city are found ridges of quartzite belonging to the Alwar group of the Delhi system. With them are associated bands of conglomerate containing boulders and pebbles of quartzite in a schistose quartzitic matrix, but the position of these formations is not well established. East of these beds a large area of granitic gneiss, upon which some outliers of the Arāvalli and Delhi schists and quartzites rest unconformably, extends to Chitor, where it is covered by shales, limestone, and sandstone belonging to the Lower Vindhyan group. Traces of copper have been found near Rewāra in the centre of the State, and at Boraj and Anjani in the south; and in olden days the lead mines at Jāwar were extensively

worked. Iron occurs at many places in the east and north-east, and garnets are found in the Bhīlwāra district.

Antelope and 'ravine deer' (gazelle) abound in the open country, and in the cold season the numerous tanks are usually thronged with wild-fowl. Leopards and wild hog are common in and near the hills. Tigers, bears, and *sāmbar* (*Cervus unicolor*) are found in the Arāvallis from Kūmbhalgarh to Kotra, in the Chhotī Sādri district in the south-east, and in the Bhainsrorgarh and Bijolia estates in the east. *Chītal* (*Cervus axis*) confine themselves to the vicinity of the Jākam river.

The climate is healthy and the heat never excessive. The mean temperature at the capital during the eight years ending 1905 (an observatory was first started in 1898) was about 77°, varying from 61° in January to 89° in May; and the mean daily range was about 24°.

The annual rainfall at the capital since 1880 has averaged about 24¼ inches, of which 14 inches are received in July and August. There is usually more rain in the south-west, the averages for Kherwāra and Kotra being 26½ and 31½ inches respectively. The maximum fall recorded in any one year was 59½ inches at Kotra in 1893, while the minimum was 4 inches at the Dhebar lake in 1899.

History.

The Mahārānās of Mewār are the highest in rank and dignity among the Rājput chiefs of India, claiming descent from Kusa, the elder son of Rāma, king of AJODHYĀ and the hero of the Rāmāyana. No State made a more courageous or prolonged resistance to the Muhammadans; and it is the pride of this house that it never gave a daughter in marriage to any of the Musalmān emperors, and for many years ceased to intermarry with the other Rājput families who had formed such alliances. According to the chronicles, the last of the descendants of Kusa to rule over Oudh was Sumitra, and some generations later Kanak Sen founded the kingdom of Vallabhi in Kāthiāwār. The rulers of Vallabhi fell before barbarian invaders, and Silāditya, the chief, was killed. His posthumous son, Gohāditya, ruled in Idar and the hilly country in the south-west of Mewār, and from him the clan took the name of Gohelot or Gahlot. The sixth chief after Gohāditya was Mahendrajī II, better known as Bāpā. He had his capital at Nāgdā, a few miles to the north of Udaipur city, and, when he grew up, left it to seek his fortune at Chitor, where Rājā Mān Singh of the Mori clan of Rājputs was ruling. The story runs that he led the Chitor forces against the Muhammadans on their first invasion of India from Sind, and that, after defeating and expelling them, he ousted Mān Singh in 734 and ruled in his stead, taking the title of Rāwal.

Little, however, is known of the history of the State till the early part of the fourteenth century. At this time Ratan Singh I was the chief; and his rule is memorable for the sack of Chitor by Alā-ud-dīn Khiljī

in 1303, after a siege which is said to have lasted for six months. Ratan Singh was among the killed, and the conqueror entrusted the fort to his son, Khizr Khān, and called it Khizrābād after him. In the time of Ratan Singh's successor, Karan Singh I[1], Mewār was invaded by Mokal Singh, the Parihār Rānā of Mandor, the old capital of Mārwār. Karan Singh sent his eldest son, Māhup, against the invader, and on his failure, entrusted the task to a younger son, Rāhup, who speedily defeated the Parihār and brought him back prisoner. For this exploit Rāhup was declared heir apparent, and received the title of Rānā, while his elder brother left the State and conquered the territory now known as Dūngarpur, where he ruled as Rāwal. Rāhup was thus the first Rānā of Mewār; and it was he who changed the name of his clan from Gahlot to Sesodia, an appellation derived from Sesoda, the village where he lived. The next six chiefs ruled for very brief periods, and all died in attempts to regain Chitor. The fort was recovered by Rānā Bhuvān Singh, but was almost immediately after retaken by Muhammad bin Tughlak towards the middle of the fourteenth century when Lakshman Singh was Rānā. The latter and seven of his sons were killed during the siege, and the government of the fort and neighbouring country was made over to Māldeo, the Chauhān chief of Jālor in Mārwār. Rānā Hamīr Singh I, second in succession to Lakshman Singh, at once made preparations to recapture Chitor, and by marrying the daughter of Māldeo was not long in attaining his object. Muhammad bin Tughlak brought a large army to recover the fortress, but was defeated and taken prisoner at Singoli, close to the eastern border of Mewār, and was not liberated till he had paid a large ransom, said to have been 50 lakhs of rupees and 100 elephants, and ceded several districts. Hamīr Singh died in 1364, and during the next century and a half the arms of Mewār were successful and the State prospered. In the time of Rānā Laksh Singh or Lākhā (1382–97), lead and silver mines were discovered at Jāwar; and the proceeds were expended in rebuilding the temples and palaces levelled by Alā-ud-dīn, and in making dams so as to form reservoirs and lakes. Rānā Kūmbha (1433–68) defeated Mahmūd Khiljī of Mālwā and kept him prisoner at Chitor for six months; he also gained victories over Kutb-ud-dīn of Gujarāt and the Musalmān

[1] The account in the text is that usually accepted; but, according to a manuscript of the fifteenth century recently discovered at Udaipur, Karan Singh ruled towards the end of the twelfth century, nine generations before Ratan Singh, and in his time the family was divided into two branches, the senior remaining at Chitor with the title of Rāwal and the junior settling at Sesoda with the title of Rānā. This continued for more than 100 years, and when Alā-ud-dīn besieged Chitor in 1303, Ratan Singh was Rāwal and Lakshman Singh Rānā; the latter came to the assistance of his kinsman and both were killed in the sack. The fort remained in the possession of the Musalmāns till the time of Muhammad bin Tughlak, and was never besieged by him, but was recovered by Rānā Hamīr Singh as stated in the text. For further details, see *Rājputāna Gazetteer*, vol. ii (in the press).

governor of Nāgaur in Mārwār; and he erected the triumphal pillar (*Jai Stambh*) at Chitor and numerous forts, the chief of them being Kūmbhalgarh. Rānā Rai Mal (1473–1508) also fought with the ruler of Mālwā, and conquered Ghiyās-ud-dīn.

We now come to the time of Rānā Sangrām Singh I, or Sanga, when Mewār reached the summit of its prosperity and is said to have yielded a revenue of ten crores. The boundaries are described as extending from near Bayānā on the north and the Sind river on the east to Mālwā in the south and the Arāvallis on the west. Tod tells us that 80,000 horse, seven Rājās of the highest rank, nine Raos, and 104 chiefs bearing the titles of Rāwal or Rāwat, with 500 war elephants, followed Rānā Sanga into the field. Before he was called on to contend with the house of Tīmūr, he had gained eighteen pitched battles against the sovereigns of Delhi and Mālwā, in two of which he had been opposed by Ibrāhīm Lodī in person. On one occasion he captured Mahmūd II of Mālwā and released him without ransom, an act of generosity which even the Musalmān historians praised; and his successful storming of the strong forts of Ranthambhor and Khāndhār (now belonging to Jaipur) gained him great renown. Such was the condition of Mewār at the time of the emperor Bābar's invasion. The Mughal prince, having defeated Ibrāhīm Lodī and secured Agra and Delhi, turned his arms against Rānā Sanga, and the opposing forces met at KHĀNUA in March, 1527. In the preliminary skirmishes the Rājputs were successful, but were eventually defeated with great slaughter. According to the Mewār chroniclers, this reverse was largely due to the desertion of Salehdi, the Tonwar chief of Raisen (now in Bhopāl), who went over to Bābar with 35,000 horse. Rānā Sanga was wounded in this battle, and was carried to the village of Baswa in Jaipur, where he died in the same year. His son, Ratan Singh II, after ruling for four years, was killed by Rao Sūraj Mal of Būndi, whom he killed simultaneously, and was succeeded by Vikramāditya, who alienated the attachment of his nobles by neglecting them for men of low degree. Taking advantage of the feud which thus arose, Bahādur Shāh of Gujarāt invaded Mewār and took Chitor in 1534. The fort was as usual gallantly defended; but, though the Rāthor queen-mother is said to have personally headed a sally in which she was slain, it was of no avail. As on the two previous occasions when Chitor fell, the funeral pyre was lighted, the women ascended it, and the garrison rushed forth to destruction. The emperor Humāyūn marched against Bahādur Shāh and defeated him near Mandasor; whereupon Vikramāditya regained his capital, but, continuing his insolence to his nobles, was assassinated in 1535 by Banbīr, the natural son of Rānā Sanga's brother. Banbīr ruled for about two years, when he was dispossessed by Udai Singh (1537–72). He founded Udaipur city in 1559, and eight years later (1567) occurred the last siege and

sack of Chitor, on this occasion at the hands of the emperor Akbar. The Rānā abandoned the fort early in the siege, but his absence did not facilitate its capture. There was still a strong garrison led by such heroes as Jai Mal of Badnor and Pattā of Kelwa, but notwithstanding their gallant efforts the fort was taken. Of the garrison, which consisted of 8,000 soldiers and 40,000 inhabitants, 30,000 are said to have been slain, and most of the rest were taken prisoners. Udai Singh was succeeded by his eldest son, Pratāp Singh I (1572–97). Sheltered in the hills, he caused the plains of Mewār to be desolated with the view of impeding the imperial forces; but he suffered a severe defeat at Haldighāt in 1576, and, being hemmed in by the numerous armies of the emperor, fled towards Sind, and had actually descended the Arāvallis when his minister, Bhīm Sāh, offered his accumulated wealth. Collecting his straggling adherents, the Rānā suddenly returned, and, surprising the imperial forces at Dewair, cut them to pieces; and he followed up his advantage with such celerity and energy that in a short campaign he recovered nearly all his territory and remained in undisturbed possession till his death. He was succeeded by his son, Amar Singh I, in whose time Jahāngīr determined upon the entire subjugation of Mewār. He installed at Chitor, as Rānā, Amar Singh's uncle, Sagra, who had come over to his side; and he dispatched a large force under his son, Parwez, but it was completely defeated near Untāla. Reinforcements under Mahābat Khān and Abdullah failed to effect the desired object, so the emperor moved his camp to Ajmer, with the avowed intention of placing himself at the head of the troops employed against the Rānā. The army was, however, really commanded by his son Khurram, afterwards Shāh Jahān, and it plundered Mewār. Rānā Amar Singh, recognizing that further opposition was hopeless, made his submission to the emperor in 1614, on the condition that he should never have to present himself in person, but could send his son in his place. This stipulation being accepted, the heir apparent, Karan Singh, accompanied Khurram to Ajmer, where he was magnanimously treated by Jahāngīr, and shortly afterwards the imperial troops were withdrawn from Chitor. Amar Singh died in 1620; and throughout the rule of his son, Karan Singh (1620–8), and his grandson, Jagat Singh I (1628–52), Mewār enjoyed perfect tranquillity. On Aurangzeb imposing the capitation tax (*jazia*) on Hindus, Rānā Rāj Singh I, who ruled from 1652 to 1680, remonstrated in a dignified letter; and this so enraged the emperor that he sent an overwhelming army which destroyed many temples and idols at Chitor, Māndalgarh, Udaipur, and other places which fell into its hands. The country was visited by a terrible famine in 1662; and, to relieve the population, the Rānā built the dam which forms the well-known lake at KANKROLI called after him Rāj Samand. He was succeeded by his son Jai Singh, who ruled till 1698. In 1681 he concluded a treaty with

Aurangzeb, in which the right of imposing the capitation tax was renounced, and he subsequently constructed the dam of the famous DHEBAR LAKE (Jai Samand). Amar Singh II (1698–1710) formed an alliance with the Mahārājās of Jodhpur and Jaipur for mutual protection against the Muhammadans. It was one of the conditions of this compact that these chiefs should regain the privilege of marriage with the Udaipur family, which had been suspended since they had given daughters in marriage to the emperors; but the Rānā unfortunately added a proviso that the son of an Udaipur princess should succeed in preference to any elder son by another mother. The quarrels to which this stipulation gave rise led to the conquest of the country by the Marāthās, at whose hands Mewār suffered more cruel devastations than it had ever been subjected to by the Muhammadans. Amar Singh was succeeded by Sangrām Singh II (1710–34), who was followed by Jagat Singh II (1734–51). In his time the Marāthā power waxed greater, and the surrender to them by Muhammad Shāh of the *chauth*, or one-fourth part of the revenues of the empire, opened the door to a similar demand from all the territories subordinate to it. Accordingly, in 1736, the Rānā concluded a treaty with Bājī Rao Peshwā by which he agreed to pay him 1·6 lakhs annually. A few years later, the proviso in the triple compact already noticed began to have results. Mahārājā Sawai Jai Singh of Jaipur had a son, Mādho Singh, by a daughter of Rānā Amar Singh II, and an elder son, Isri Singh, by another wife. To defeat the proviso and strengthen Isri Singh, he married the latter to a daughter of the Rāwat of Salūmbar, the most powerful of the Udaipur nobles, so as to secure for him a strong party in Mewār itself. On Jai Singh's death in 1743, Isri Singh succeeded at Jaipur; but Rānā Jagat Singh supported by arms the claims of Mādho Singh and, on being defeated, called in the aid of Malhār Rao Holkar and agreed to pay him 80 lakhs[1] on the deposition of Isri Singh. The latter is said to have poisoned himself, while Holkar received in part payment the rich district of Rāmpura. Thereafter it became the custom, for the redress of any real or supposed wrong, to call in the aid of the Marāthās, who thus obtained a firm footing in Mewār, and became the referees in all disputes and the virtual masters of the country. The successors of Jagat Singh were Pratāp Singh II (1751–4), Rāj Singh II (1754–61), Ari Singh II (1761–73), and Hamīr Singh II (1773–8). During their rule the ravages and exactions of the Marāthās continued. The nobles of the State formed a party to depose Ari Singh and set up a youth named Ratna, alleged to have been the posthumous son of the previous Rānā. To succeed in their designs they called in Sindhia, who, after defeating Ari Singh in a severe battle near Ujjain in 1769, invested Udaipur city and declined to raise the siege till he had been promised 63½ lakhs.

[1] Some say 64 lakhs, others 100.

About half of this sum was paid in specie, and the districts of Jāwad, Jīran, and Nīmach were mortgaged for the remainder. Not long afterwards, Sindhia dismissed the Rānā's officers from these territories, which were thus lost to Mewār. In 1771 the district of Godwār, which had been made over temporarily to Mahārājā Bijai Singh of Jodhpur to preserve it from the pretender, was also lost, as the Jodhpur chief declined to give it up; and, a few years later, Holkar made himself master of Nīmbahera and other tracts. It has been estimated that up to 1778 the Marāthās had extracted from Mewār about 181 lakhs in cash and territory of the annual value of 28 lakhs. Bhīm Singh II was Rānā from 1778 to 1828; and for the greater part of this period his territory was laid waste by the armies of Sindhia, Holkar, and Amīr Khān, and by many hordes of Pindāri plunderers, while his own nobles were not slow in usurping crown lands. The distractions were increased by a ruinous war between the chiefs of Jaipur and Jodhpur for the hand of the Rānā's daughter, Krishna Kunwari. At length, in 1817, the British Government resolved to extend its influence and protection over the States of Rājputāna, and Bhīm Singh eagerly embraced the opportunity. A treaty was made in 1818, under which the tribute payable to the British Government was to be one-fourth of the revenues for five years and thereafter three-eighths in perpetuity. In 1826, however, the tribute was fixed at 3 lakhs in the local currency, and in June, 1846, this was reduced to 2 lakhs (British). As the country was utterly disorganized and active interference was necessary to restore the State to prosperity, the Political Agent was directed to take the control of affairs into his own hands. The result was that the net revenues increased from 4·4 lakhs in 1819 to 8·8 lakhs in 1821; but, on British interference being gradually withdrawn, the State again became involved in debt. During the rule of Jawān Singh (1828–38) matters went from bad to worse; and his adopted son, Sardār Singh, succeeded in 1838 to an inheritance of debt amounting to about 20 lakhs, of which nearly 8 lakhs was on account of tribute. He ruled for only four years, and was followed by his younger brother, Sarūp Singh, who hospitably sheltered several English families during the Mutiny and died in 1861. Mahārānā Shambhu Singh ruled from 1861 to 1874. During his minority the administration was conducted by a Council, with the aid of the advice of the Political Agent; but this body worked badly, and it was eventually found necessary to entrust greater power to the Agent. The change was attended with success; and when the administration was handed over to the young chief in 1865, the cash balance in the treasury exceeded 30 lakhs. Shambhu Singh's liberality and good management during the famine of 1868–9 met with the cordial approval of Government, and he was created a G.C.S.I. in 1871. His successor was his first cousin, Sajjan Singh. As he was a minor, the State was managed for

about two years by a Council aided by the Political Agent; but he was invested with ruling powers in 1876, and in 1881 was created a G.C.S.I. In his time settlement operations were started in certain *khālsa* districts, and an agreement providing for the suppression of the manufacture of salt and the abolition of transit duty thereon was concluded with the British Government. In 1884, on the death of Sajjan Singh without issue, the unanimous choice of the family and leading men fell on Fateh Singh, a descendant of the fourth son of Rānā Sangrām Singh II; and the selection having been confirmed by Government, he was installed in 1885. For a few months he carried on his duties with the assistance of the Resident, and was then invested with full powers. He was created a G.C.S.I. in 1887; and in the same year, in commemoration of Her late Majesty's Jubilee, he abolished transit dues within his State on all articles except opium. In 1897 his personal salute was raised to 21 guns. Among other important events of his rule are the construction of the railway from Chitor to the capital, the introduction of a settlement, and the disastrous famine of 1899–1900. The chief bears the titles of His Highness and Mahārānā, and ordinarily receives a salute of 19 guns.

Mewār is rich in archaeological remains. Stone inscriptions dating from the third century B.C. to the eighteenth century A.D. are numerous, but none has been found on copper of a date earlier than the twelfth century. Among buildings, the oldest are probably the two *stūpas* at Nagari. On the lofty hill of CHITOR stand the two well-known towers, the *Kīrtti Stambh* of the twelfth or thirteenth century, and the *Jai Stambh* of the fifteenth century; and several temples and palaces. Ancient temples, many of which are exquisitely carved, exist at Barolli near BHAINSRORGARH; at BIJOLIA; at Menāl near BEGŪN; and at Eklingjī and Nāgdā not far from UDAIPUR CITY.

Population.

Excluding the 94 Mewār villages situated in the British District of Merwāra, which, under an arrangement arrived at in 1883, are managed by the Government of India, but over which the Mahārānā still retains other rights, the State contains 6,044 towns and villages, and its population at the three enumerations was: (1881) 1,494,220, (1891) 1,845,008, and (1901) 1,018,805. These figures show an increase in population during the first decade of about 23 per cent. and a decrease during the second decade of nearly 45 per cent. But it must be remembered that the Census of 1901 was the first complete one taken in Mewār. At neither of the earlier enumerations were the Bhīls regularly counted; a very rough estimate was made of their numbers, and the figures so arrived at have been included in the totals. A large decrease in population certainly occurred between 1891 and 1901, due to a series of indifferent seasons culminating in the great famine of 1899–1900, and to a severe type of malarial fever which prevailed in the autumn of 1900, and is said to

have carried off more victims than the famine itself. The territory is divided into 17 districts, of which the larger are called *zilas* and the smaller *parganas*; it also includes the two *bhūmāts* of Kherwāra and Kotra, held by petty Girāsiā chiefs, and the 28 *jāgīr* estates of the principal nobles of Mewār. The chief towns are UDAIPUR CITY, BHĪLWĀRA, NĀTHDWĀRA, and CHITOR. The following table gives the chief statistics of population in 1901:—

Subdivision.	Number of Towns.	Number of Villages.	Population.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Bhīlwāra *zila*	2	205	66,565	− 30·9	3,123
Chitor ,,	1	440	66,004	− 50·9	3,325
Chhotī Sādri ,,	1	209	31,662	− 34·1	773
Devasthān ,,	...	102	23,622	− 43·3	483
Jahāzpur ,,	1	489	124,267	− 31·7	6,985
Girwa ,,	1	306	42,150	− 50·8	1,675
Kapāsan ,,	...	142	28,371	− 45·8	685
Magrā ,,	...	328	48,460	− 48·2	1,227
Māndalgarh ,,	...	258	33,619	− 60·2	532
Rāsmi ,,	...	100	26,897	− 42·5	890
Sahran ,,	...	274	53,850	− 46·1	1,783
6 *parganas*	...	594	127,147	− 41·1	4,582
2 *bhūmāts*	2	361	37,488	− 46·3	1,273
28 principal *jāgīr* estates	6	2,222	308,703	− 47·9	13,518
State total	14	6,030	1,018,805	− 44·8	40,854

Of the total population, 779,676, or over 76 per cent., are Hindus, and 134,114, or 13 per cent., Animists, while Jains number 64,623, and Musalmāns 40,072. The languages spoken are Mewārī (a variety of Mārwārī, one of the four main groups of Rājasthānī) and Bhīlī, a dialect based partly on Gujarātī.

Of castes and tribes, the most numerous is that of the BHĪLS, who number 118,000, or more than 11 per cent. of the entire population. Next come the Mahājans (94,000), the Brāhmans (94,000), and the Rājputs (92,000), each about 9 per cent. Other castes numerically strong are the Jāts (58,000), the Gūjars (50,000), and the Balais or village servants (41,000). The main occupation of the people is agriculture, more than 55 per cent. living by the land, while many others are partially agriculturists. The great cultivating classes are the Jāts, Gūjars, Mālis, Gadris, Dāngis, and Dhākars; but in almost every village Mahājans, Telis, Kumhārs, Brāhmans, &c., will be found practising agriculture, sometimes as their sole means of subsistence and sometimes in conjunction with their own peculiar functions.

In 1901 there were 184 native Christians, of whom 96 were Presbyterians, 61 Roman Catholics, and 23 belonged to the Anglican communion. The United Free Church of Scotland has had a branch

at the capital since 1877, and the Church Missionary Society at Kherwāra since 1881.

The character of the soil varies a good deal, but the limits of each kind are marked with tolerable distinctness. To the south along the hills the so-called black cotton soil largely predominates, and in the Chhotī Sādri district in the south-east there is little else. It chiefly lies in wide level tracts; and where the surface of the country rises into undulations, it changes on the slopes to a brown or reddish loam, fertile with irrigation, but inferior otherwise to the black. Along the banks of rivers the soil is generally light and sandy, but possesses the greatest facility for irrigation; and consequently the best villages and most highly cultivated tracts are found in such localities. The Chitor district also contains a good deal of black soil, but near the hills the ground is red and stony. In Māndalgarh (in the east) and Jahāzpur (in the north-east) the surface is very undulating, and the soil is often light and covered with loose stones. The central and more southern districts exhibit the greatest diversity. Here may be seen wide plains of black soil and then an undulating tract of poor and rocky ground, while, wherever a river flows, on both sides are broad stretches of light sandy loam rendered fertile by irrigation and manure and bearing the most valuable crops. The most productive of all is unquestionably the black soil of the level plains; but the red loam of the slopes and the light sand of the river banks, though inferior in natural fertility, yield a rich return to careful cultivation. The poorest and most unmanageable is the thin and stony soil of the undulations.

Agriculture.

Agricultural operations are very simple, and in the open country are of the usual kind. In the south the gorges and slopes of the hills are embanked into successive steps or terraces, which, during the rains, become so many swamps, draining one into the other. On the hill-sides, *wālar* or shifting cultivation is practised by the Bhīls. This consists of cutting down the woods and burning them on the ground, in order to clear room for a field which is manured by the ashes. The seed is scattered broadcast and, after a year or two, the soil is exhausted, and then another felling takes place. The system is most destructive to the forests.

The autumn and spring harvests are, in Mewār, called *siālu* and *unālu* respectively. The principal crops in the former are maize, *jowār*, *til*, cotton, and sugar-cane, while in the cold season the important staples are wheat, barley, gram, and poppy. No reliable agricultural statistics are available. The area of the districts in which the settlement has been introduced is about 2,076 square miles; and of this, 743 square miles, or about 36 per cent., are said to be under cultivation in ordinary seasons.

About one-fourth of the cultivated area is irrigated. Irrigation is mainly from wells, of which there are said to be at least 25,000 in the districts that have been settled and about 100,000 in the entire State. A layer of hard rock usually lies within a few feet of the surface and renders the construction of wells a task of great expense and labour. Water is raised by means of the Persian wheel or, when the spring-level is too far down for this contrivance, by the usual leathern bucket. In shallow wells, the Persian wheel is sometimes worked by the feet and is termed *pāvti*. There are said to be upwards of 100 large tanks in the *khālsa* portion of the State, and almost every village has a tank of some kind; but the area irrigated from this source in the districts that have been settled is small, being estimated at about 27 square miles, or one-seventh of the total irrigated area.

Forests.

The forests of Mewār occupy about 4,600 square miles, but they are not systematically worked. About 72 square miles are said to be 'reserved'; but even these are under no system of real conservancy, and the so-called Reserves are kept chiefly for sporting purposes and to a certain extent for the supply of forage and fuel for State requirements. Elsewhere, the people cut wood and graze their cattle at will, and forest fires rage throughout the dry months of the year. The best forests are in the west and south-west along the Arāvalli range, and in the south near Salūmbar, Dariāwad, and the Dhebar Lake. The more valuable trees, such as teak, black-wood, and ebony, are scarce, but the following are found in numbers:—*babūl* (*Acacia arabica*), banyan or *bar* (*Ficus bengalensis*), *ber* (*Zizyphus Jujuba*), *dhāk* (*Butea frondosa*) *gūlar* (*Ficus glomerata*), *haldu* (*Adina cordifolia*), *jāmun* (*Eugenia Jambolana*), *khair* (*Acacia Catechu*), *khejra* (*Prosopis spicigera*), *mahuā* (*Bassia latifolia*), mango, *nīm* (*Melia Azadirachta*), *pīpal* (*Ficus religiosa*), *sālar* (*Boswellia thurifera*), *shīsham* (*Dalbergia Sissoo*), *siris* (*Albizzia Lebbek*), and the tamarind, &c. The annual revenue derived from the sale of grass and minor produce, such as honey, wax, gum, &c., is about Rs. 15,000, and the expenditure about Rs. 9,000.

Minerals.

Mewār is rich in minerals, but they are hardly worked at all now. The lead and zinc mines at Jāwar, about 16 miles south of the capital, are said to have yielded up to 1766 a net revenue of two lakhs, and were worked till the famine of 1812. Prospecting operations were started in 1872, but great difficulty was experienced in removing water by manual labour, and the Mahārānā was not disposed to incur the cost of providing machinery. Two specimens of galena then found showed a very small proportion of silver, namely about 10½ ounces to a ton of lead. Iron mines are still worked in the eastern half of the State, but not to any great extent; and garnets are procurable at several places in the Bhīlwāra district.

Sandstone is abundant, especially in the hills near the Dhebar Lake and at Debāri; excellent white marble is found at Rājnagar and black marble near Chitor.

The manufactures consist of swords, daggers, embroidery, ivory and wooden bangles, and cotton cloths printed in gold and silver at the capital; tinned utensils at Bhīlwāra; stone toys and images at Rakhabh Dev; and leathern jars for *ghī* and oil at different places. A cotton-ginning and pressing factory is worked by the Darbār at Bhīlwāra.

Trade and communications.

The chief exports of Mewār are cotton, wool, opium, *ghī*, oilseeds, sheep and goats, cooking utensils, printed cloths, and, in good years, cereals; the chief imports are salt, tobacco, sugar, piece-goods, coconuts, and metals.

The Rājputāna-Mālwā Railway traverses the eastern half of the State from north to south, with a length of about 82 miles and 10 stations in Mewār. From Chitor, another line, the property of the Darbār, runs almost due west to the capital, and is consequently called the Udaipur-Chitor Railway. This line was opened for traffic in 1895 as far as Debāri, about eight miles from Udaipur city; it was worked by the Bombay, Baroda, and Central India Railway till the end of 1897, and subsequently by the Darbār. In 1898 the Mahārānā decided to extend the line to his capital, and this work was completed by 1899. The length of the Udaipur-Chitor Railway is a little over 67 miles, and the total expenditure to the end of 1905 was nearly 21 lakhs. In the year last mentioned the gross working expenses were Rs. 1,04,000 and the net revenue Rs. 1,03,000. The return of net revenue on capital has varied from 3·39 per cent. in 1896 to 9·37 per cent. in 1900, and averages about 5 per cent.

The total length of metalled roads is 142 miles and of unmetalled roads 257 miles. All these are maintained by the Darbār, except the one connecting Nasīrābād with Nīmach (82 miles unmetalled within Mewār limits). This road was constructed between 1866 and 1875 at a cost of about 2·8 lakhs, of which the Darbār contributed two-thirds and the British Government one-third; and about half of it was originally metalled, but, since the advent of the railway, it has been maintained as a fair-weather communication only. A useful road is that running south from Udaipur to Kherwāra, and thence north-west past Kotra to Rohera station in Sirohi. It is unmetalled and 120 miles in length to the Sirohi border.

There are 36 British post offices in the State, and four of them are also telegraph offices. In addition, a local postal system, called *brāhmani dāk*, is maintained for the conveyance of State and private correspondence to and from places not served by the British system. It is managed by a contractor, who receives Rs. 1,920 yearly from the

Darbār, and charges the public half an anna (in the local currency) per letter irrespective of weight.

Famine.

Famines are fortunately rare in Mewār. The first of which there is any record is that of 1662, when the principal relief work was the dam of the Rāj Samand at Kankroli. Famines are mentioned as having occurred in 1812-3, 1833-4, and 1868-9. In the last of these, Mahārānā Shambhu Singh was conspicuous in his efforts to relieve distress, and altogether spent about 5 lakhs, besides remitting transit duties on grain. In 1899 the rainfall was scanty, only 4 inches being received in some parts; the autumn crops failed and fodder was very scarce. Relief works and poorhouses were started in September and kept open for eleven months; but there was great difficulty in carrying grain to tracts remote from the railway, as most of the cattle had been removed or had died, and the price of camel or cart hire was prohibitive. Over the *khālsa* area the relief was on the whole adequate (though the Darbār's efforts were seriously hampered by the incapacity and misconduct of its officials), but, save in the estates of a few nobles, the relief measures elsewhere were unsatisfactory. More than 34 million units were relieved on works or gratuitously, and the total expenditure was about 25 lakhs. When the famine was at its height in May, 1900, cholera broke out with great severity and added to the difficulties. The population of Kherwāra was decimated, and 5 per cent. of the inhabitants of the capital died from this disease within a fortnight. A more recent scarcity in 1901-2 was due as much to a plague of rats as to scanty rainfall. It was confined to the western and south-western districts, and about three million units were relieved on works and gratuitously at a cost of two lakhs.

Administration.

The administration is carried on by the Mahārānā, assisted by two ministerial officers who, with a staff of clerks, form what is called the *Mahakma khās*, or chief executive department in the State. A *hākim* is in charge of each of the eleven *zilas* and six *parganas* into which Mewār is divided. Each *zila* is composed of two or more subdivisions with a *naib-hākim* in charge of each, but, with one exception (Kūmbhalgarh), there is no such official in a *pargana*.

The civil and criminal courts are guided generally by the Codes of British India, Hindu law, and local custom. The *naib-hākims* have no recognized powers, but exercise such as may be delegated to them by their *hākims*. The latter decide civil suits up to Rs. 5,000 in value, and can pass a sentence of imprisonment up to a term of one year, or in some cases only six months, and fine up to Rs. 500. Appeals against their decisions lie to the chief civil or criminal court at the capital, as the case may be. The judge of the former court can also decide suits not exceeding Rs. 10,000 in value, while the presiding officer of the

latter can sentence to three years' imprisonment and a fine of Rs.1,000. The next highest court is the *Mahendrāj Sabhā* or *Ijlās māmūli*, a council of eight members. It hears appeals against the orders of the courts immediately below it, and can itself decide suits not exceeding Rs. 15,000 in value and pass a sentence of seven years' imprisonment and Rs. 5,000 fine. This same court, when presided over by the Mahārānā in person, is called the *Ijlās kāmil* and is the highest court in the State, disposing of all serious and important cases. The Darbār claims full jurisdiction in all the *jāgīr* estates, save those of fourteen of the first-class nobles to whom limited powers were granted in 1878-9.

The revenue and expenditure of the State are now about 26½ and 26 lakhs a year respectively. The chief sources of revenue are (in lakhs):—land revenue, 13·6; customs (including payments made by Government under the Salt agreements of 1879), 7·2; the Udaipur-Chitor Railway, 2; and tribute from *jāgīrdārs*, about 1·3; while the main items of expenditure are army (including police), 7; privy purse and palace, 4; civil and judicial staff, 3·2; tribute to Government, 2; and public works, 1·8 lakhs. The State is believed to be free from debt. Besides British rupees, five different kinds of silver coins are current in Mewār: namely, *Chitori*, *Udaipuri*, *Bhīlāri*, *Sarūp shāhi*, and *Chandori*; but the first three are no longer minted. The rate of exchange with the British rupee fluctuates almost daily, depending generally on the condition of the export and import trade. In October, 1905, the exchange for 100 British rupees was approximately 121 *Sarūp shāhi*, or 127 *Chitori*, or 129 *Udaipuri*, or 145 *Bhīlāri*, or 257 *Chandori*. The State has also its small silver coins (8 annas, 4 annas, &c.), gold coins, and copper pieces (locally called *dhingla*) of which sixteen go to the anna.

The principal tenures in the State are *jāgīr*, *bhūm*, *sāsan*, and *khālsa*; and if the whole territory be divided into 13½ parts, 7 would be *jāgīr* or *bhūm*, 3 *sāsan*, and 3½ *khālsa*. Originally the word *jāgīr* was applied only to lands held on condition of military service; but it has since obtained a wider application, and grants of land, whether in recognition of service of a civil or political nature or as marks of the personal favour of the chief, have all been enrolled as *jāgīr*. Hence the *jāgīrdārs* may be divided into two classes: namely, Rājputs; and others, such as Mahājans, Kāyasths, &c. The Rājputs, with a few exceptions, pay a fixed annual quit-rent, called *chhatūnd*, because it was supposed to be one-sixth of the annual income of their estates, and also have to serve with their contingents for a fixed period annually. All pay *nazarāna* on the succession of a new Mahārānā and on certain other occasions, while most of them pay a fee called *kaid* on succeeding to their own estates. On the death of a *jāgīrdār*, his estate immediately becomes *khālsa* (i.e. reverts to the Darbār), and so remains until his son or successor is

recognized by the Mahārānā, when it is again conferred and a fresh *patta* or lease is given. An estate is not liable to confiscation, save for some grave political offence. *Jāgīrdārs*, other than Rājputs, do not pay the quit-rent above mentioned, but have to serve their chief when called on. Finally, if a *jāgīrdār* (Rājput or otherwise) have no son, he can adopt with the sanction of the Darbār. Those holding on the *bhūm* tenure pay a small quit-rent (*bhūm barār*), and can be called on for local service, such as watch and ward of their village, escorting of treasure, &c. So long as the *bhūmiās* do not neglect their duties, the tenure is perpetual, and no fee is paid on succession. *Sāsan* or *muāfi* lands are those given to Brāhmans, Gosains, and other priestly castes, as well as to Chārans and Bhāts. The holders neither pay tribute nor (save in the case of *chākrāna* lands) perform service. Lastly, no land held on any of the three tenures above described can be sold, though mortgages are not uncommon. The tenure in the *khālsa*, or crown lands, may be described as *ryotwāri*. The ryot is generally undisturbed in his possession so long as he pays the land revenue (*bhog* or *hāsil*). Two varieties may be distinguished: namely, *pakkā* or *bāpoti*, and *kachchā*. The former gives the occupier rights of mortgage and sale, and an indefeasible title to the land so long as he pays the assessment upon it. Even if ejected for non-payment or driven away by misfortune and losses, he may at any time reappear and claim the inheritance of his ancestors by paying the revenue in arrears, as well as that of the years in which the land remained uncultivated during his absence. Under the *kachchā* tenure, the occupier is little better than a tenant-at-will; the land is simply leased for cultivation and can at any time be resumed. In former days the land revenue was usually realized in kind, the State share varying from one-fourth to one-half of the produce; but in 1878 the Mahārānā decided to have a regular settlement. This was introduced in 10½ of the 17 districts of Mewār between 1885 and 1893 for a term of twenty years, which has been extended. The revenue was assessed according to the class and value of the soil, and varies from 1½ annas per acre on the worst land to Rs. 15 per acre on the best irrigated land. The area of the settled districts, according to the plane-table survey then made, was about 2,000 square miles. In districts not settled the land revenue is realized either according to the *batai* system, under which the Darbār takes from one-fourth to one-half of the gross produce in addition to some petty cesses, or according to the *bīghori* system. The latter is applied to poppy, cotton, and sugar-cane, and is a money rate on area varying with the crop sown and the nature of the soil. The rates per acre work out thus: poppy, Rs. 3 to Rs. 12; cotton, Rs. 1–2 to Rs. 7–8; and sugar-cane, Rs. 6–12 to Rs. 22–8.

The military force numbers 6,015 of all ranks: namely, 2,549 regulars and 3,466 irregulars. The regular troops consist of 1,750 infantry,

560 cavalry, and 239 gunners, and the irregulars of 3,000 infantry and 466 cavalry. The State owns 128 guns, of which 56 are said to be serviceable. This force costs the Darbār about 6½ lakhs a year. In addition, the usual contingent of horse and foot soldiers is supplied by the *jāgīrdārs*. Two British cantonments are maintained in the State: namely, KHERWĀRA and KOTRA, where the Mewār Bhīl Corps is located. The Darbār pays a sum of Rs. 66,000[1] a year towards the cost of this corps and the 44th Merwāra Infantry, the money being realized by Government from the revenues of the Mewār villages in Merwāra.

The police duties in the districts are performed by the irregular troops and the *jāgīr* contingents, under the immediate control of the various *hākims*. For the capital and suburbs and the railway to Chitor a special force is maintained of 537 men (of whom 36 are mounted) under a Superintendent. A Central jail at the capital has accommodation for 458 prisoners, and lock-ups exist at the head-quarters of each district. In 1905 the expenditure on the Central jail was about Rs. 25,000, and the cost of maintaining each prisoner was Rs. 54. The profit on jail manufactures (carpets, rugs, blankets, coarse cloth, rope, &c.) was Rs. 2,360.

In the literacy of its population Mewār stands sixth among the twenty States and chiefships of Rājputāna, with 4 per cent. (7·4 males and 0·2 females) able to read and write. Omitting indigenous schools such as *maktabs* and *pāthsālas*, there are 54 educational institutions in the State, and the daily average attendance in 1905 was about 2,500. Of these schools, 42 are maintained by the Darbār, seven by the United Free Church Mission, three by the Church Missionary Society, and two by the Mewār Bhīl Corps. There are only two secondary schools: namely, the high school at the capital and an Anglo-vernacular middle school at Bhīlwāra, which are attended by 440 boys. Five girls' schools have a daily average attendance of about 190. The total State expenditure on education is Rs. 24,000, of which rather more than half is derived from a small cess levied from the agriculturists of the settled districts. In the other districts a fee of one anna per student monthly is charged, but the children of the poor get their education free.

Including the military hospitals at Kherwāra and Kotra, the State contains fourteen hospitals and six dispensaries, of which fourteen are kept up by the Darbār, three by the Government, one by the United Free Church Mission, and two partly by Government and partly by private subscription. They have accommodation for 274 in-patients, and in 1905 the number of cases treated was 148,579 (1,996 being in-patients), and 6,603 operations were performed. The State expenditure is about Rs. 25,000 a year.

[1] The cost of administration of the Mewār villages in Merwāra is included in this sum (see Aitchison's *Treaties*, vol. iii, p. 12).

Vaccination is not compulsory. A staff of 19 vaccinators under a native Superintendent is maintained, and in 1905-6 the number of persons successfully vaccinated was 19,364, or 19 per 1,000 of the population.

[J. C. Brooke, *History of Mewār* (1859); *Rājputāna Gazetteer*, vol. iii (1880, under revision); A. Wingate, *Settlement Reports* (1881-9); *Report on Irrigation in the Mewār State* (Ajmer, 1903).]

Udaipur City.—Capital of the State of Mewār or Udaipur in Rājputāna, called after Rānā Udai Singh, who founded it in or about 1559. It is situated in 24° 35′ N. and 73° 42′ E., near the terminus of the Udaipur-Chitor Railway, 697 miles north of Bombay. The city is the fifth largest in Rājputāna, and in 1901 had a population of 45,976, as compared with 46,693 in 1891, and 38,214 in 1881. Hindus numbered 29,157, or more than 63 per cent. of the total; Musalmāns, 9,585, or over 20 per cent.; and Jains, 4,520, or nearly 10 per cent.

The situation of Udaipur forms its principal charm. The city stands on the slope of a low ridge, the summit of which is crowned by the Mahārānā's palace, and to the north and west the houses extend to the bank of a beautiful piece of water known as the Pichola lake. The view from the embankment across to the dark background of wooded hills, which close in round the western sides of this lake and supply the water, is as fine as anything in India. The palace is an imposing pile of buildings running north and south, and covering a space about 1,500 feet long by about 800 feet at the widest part. Fergusson has described it as 'the largest in Rājputāna, and in outline and size a good deal resembling Windsor; but its details are bad, and, when closely examined, it will not bear comparison with many other residences of Rājput princes.' But though the palace has been added to by almost every chief since 1571, when the oldest portion, the *Rai āngan* or 'royal courtyard,' is said to have been built, the want of plan and mixture of architecture do not spoil the general effect, and this very diversity is itself attractive. The Pichola lake is said to have been constructed by a Banjārā at the end of the fourteenth century, and the embankment was raised by Rānā Udai Singh. The lake is about $2\frac{1}{4}$ miles long by $1\frac{1}{2}$ broad, and has an area of over one square mile. In the middle stand the two island palaces, the Jagmandir and the Jagniwās, the former built by Rānā Jagat Singh I in the first half of the seventeenth century and the latter by Jagat Singh II about a hundred years later. The Jagmandir is noted as the asylum of prince Khurram, afterwards the emperor Shāh Jahān, while in revolt against his father, Jahāngīr. The little palace then built for him consists of a round tower of yellow sandstone lined inside with marble slabs, three storeys in height and crowned by a handsome dome. The upper apartment is circular, about 21 feet in diameter, and Fergusson

thought it the prettiest room he knew in India. 'Its floor is inlaid with black and white marbles; the walls are ornamented with niches and decorated with arabesques of different coloured stones (in the same style as the Tāj at Agra, though the patterns are Hindu), and the dome is exquisitely beautiful in form.' Other objects of interest on this island are the little mosque, a room built of twelve enormous slabs of marble, and the throne sculptured from a single block of serpentine. The Jagniwās is about 800 feet from the shore, and consists of a collection of small apartments, courts, and gardens. The latter are filled with orange, mango, and other fruit trees, forming a perfect roof of evergreen foliage, broken only occasionally by a tall palm or cypress, and varied by the broad-leafed plantain. Of these two islands Fergusson writes that the only objects in Europe that can be compared with them 'are the Borromean islands in the Lago Maggiore, but I need scarcely say their Indian rivals lose nothing by the comparison; they are as superior to them as the Duomo at Milan is to Buckingham Palace. Indeed, I know of nothing that will bear comparison with them anywhere.' Another fine lake, connected by a small canal with, and lying to the north of, Pichola, is the Fateh Sāgar, constructed by, and named after, the present Mahārānā. It is about 1½ miles long by one mile broad; and the embankment, 2,800 feet long, is named after His Royal Highness the Duke of Connaught, who laid the foundation-stone in 1889. Among other objects of interest are the Sajjan Niwās gardens, well laid out and kept up; the Victoria Hall, a handsome building used as a library, reading-room, and museum, in front of which stands a statue of Her late Majesty; and the cenotaphs of the chiefs of Mewār in the old village of AHĀR.

The manufactures of Udaipur city are unimportant, consisting mainly of embroidery, cotton cloths stamped in gold and silver, and swords and daggers. The Central jail has accommodation for 458 prisoners, and is usually overcrowded, the daily average strength having been 481 in 1901, 672 in 1902, 526 in 1903, and 457 in 1904. Altogether eight schools (including two for girls) are maintained at Udaipur, five by the State and three by the United Free Church Mission, and are attended by about 800 pupils. The only notable institution is the Mahārānā's high school, in which English, Sanskrit, Persian, &c., are taught. It is affiliated to the Allahābād University, and is attended by about 260 boys. The city contains five hospitals and one dispensary; of the former, one is maintained by the mission and one by Government. The Lansdowne Hospital (opened in July, 1894) and the Shepherd Mission Hospital (opened in December, 1886) are both excellent institutions and deservedly popular. The Walter Hospital for women (opened in May, 1888) is also deserving of notice; it is a fine building containing 24 beds.

Of places of interest in the neighbourhood of Udaipur may be mentioned Eklingjī, situated in a narrow defile 12 miles to the north. Here in the eighth century Bāpā Rāwal constructed a temple to Mahādeo, who is worshipped under the epithet of Ekling, that is, 'with one *lingam*.' The original building was destroyed by the Muhammadans, but was rebuilt in the fifteenth century. The temple is of unusual design, having a double storeyed porch and sanctuary, the former covered by a flat pyramidal roof composed of many hundred circular knobs, and the latter roofed by a lofty tower of more than ordinary elaboration. Inside the temple is a four-faced image of Mahādeo made of black marble. Since Bāpā Rāwal's time, the chief of Mewār has been *Dīwān* or vice-regent of Eklingjī, and as such, when he visits the temple, supersedes the high priest in his duties and performs the ceremonies. A picturesque lake lies in the vicinity, and numerous other temples stand close by, that built in the sixteenth century by Mirān Bai, the wife of Bhoj Rāj, son of Sangrām Singh, being of singular elegance. Close to Eklingjī is Nāgdā or Nāgahrida, one of the most ancient places in Mewār. Here the Mahārānā's ancestors ruled for seven generations till the time of Bāpā. The principal temples are the Sās Bahu pair, said to be as old as the eleventh century, and dedicated to Vishnu. They are most beautifully carved, and adorned with artistic figures and sculpture in the very best taste. The Jain temple known as Adbudjī's is remarkable only for the great size of the images it contains, the largest, that of Sāntināth, being 6½ feet by 4 feet.

[The quotations from Mr. Fergusson are taken from his *Picturesque Illustrations of Ancient Architecture* (1848).]

Udaipur Village.—Head-quarters of the division of the same name in the State of Hill Tippera, Eastern Bengal and Assam, situated in 23° 31′ N. and 91° 29′ E. It is the old capital of the State, and abounds in ruins and possesses enormous tanks now overgrown with jungle. The temple of Tripureswarī is, with one exception, the most important in this part of Eastern Bengal, and is visited by thousands of pilgrims from all parts of the Province. It dates from the beginning of the sixteenth century.

Udaipur Town.—Principal town of a subdivision of the Shekhāwati *nizāmat* of the State of Jaipur, Rājputāna, situated in 27° 44′ N. and 75° 29′ E., about 60 miles north-by-north-west of Jaipur city. Though unfortified except by a few towers in ruins, the town is strong by situation, commanding a narrow and rocky defile through the Arāvalli Hills, which in this neighbourhood attain a height exceeding 3,000 feet above the sea. Population (1901), 8,638. A considerable body of the Nāga militia of the Jaipur State are quartered in the town; and it was here that, in the old days of their confederacy, the barons

of Shekhāwati assembled to decide the course of action to be pursued when any common or individual interest of theirs was menaced. According to Tod, the old name of the place was Kais or Kasumbi.

Udaiyārpālaiyam Tāluk.—North-eastern *tāluk* of Trichinopoly District, Madras, lying between 10° 54′ and 11° 26′ N. and 78° 59′ and 79° 30′ E., with an area of 753 square miles. It is bordered on the north by the Vellār river and on the south by the Coleroon. At the south-eastern extremity is the Lower Anicut across the latter river, over which passes the trunk road from Kumbakonam to Madras. The population in 1901 was 300,708, compared with 290,563 in 1891. Of the total area, 204 square miles are included in the Udaiyārpālaiyam and Ariyalūr *zamīndāris*. The towns are UDAIYĀRPĀLAIYAM (population, 7,553) and ARIYALŪR (7,370), and there are 228 villages. The head-quarters of the *tahsīldār* are at Jeyamkondacholapuram. The general aspect of the *tāluk* is flat. The soil is for the most part a mixture of red sand and clay, but strips of alluvium run along the banks of the Vellār and Coleroon rivers and on the west. Throughout the greater part of the Ariyalūr *zamīndāri* the land is black cotton soil, thinly spread over a substratum of limestone. This *tāluk* benefits most by the north-east monsoon, and its average annual rainfall (39 inches) is almost the heaviest in the District. The area cultivated in 1903–4 was 361 square miles, the principal crops being rice, *cambu*, *rāgi*, *dāl*, ground-nuts, and gingelly. The demand for land revenue and cesses amounted to Rs. 4,01,000. About 17,600 acres of Government land and a considerable portion of the *zamīndāris* are covered with a jungle of low brushwood (*Memecylon edule*), of which large quantities are exported for fuel to Kumbakonam and villages in Tanjore District.

Udaiyārpālaiyam Town.—Town in the *tāluk* of the same name in Trichinopoly District, Madras, situated in 11° 11′ N. and 79° 18′ E. Population in 1901, 7,553, compared with 7,739 in 1891 and 5,703 in 1881. The town is the place of residence of the *zamīndār* of the same name, and the drop in the population in 1901 was due to his being absent, with a considerable following, at the time of the Census. The *zamīndār* is of the Vanniya caste, and his ancestors held the estate as *arasu-kāvalgārs* or 'heads of police.' Like so many other similar chiefs, they experienced many vicissitudes of fortune during the wars of the eighteenth century and the rule of the Nawāb of the Carnatic. At the time when Trichinopoly District was handed over to the East India Company in 1801 the *zamīndār* was in receipt of a monthly allowance of Rs. 1,000, and the estate was under the management of an agent of the Nawāb. In 1817 the British Government restored to him a portion of the estate, the annual value of which was equal

to 10 per cent. of the gross revenue, required him to pay a nominal *peshkash* of Rs. 640, and gave him a *sanad* (title-deed). The *zamīndāri* has recently been declared impartible.

The palace of the Udaiyārpālaiyam *zamīndār* is a remarkable building. It is very dilapidated in parts, and some incongruous new portions have been added; but even with these defects it contains decorative work which has been thought, to be among the finest in Southern India. It looks like work of the seventeenth century, is executed in rather soft stone, and was probably designed under Muhammadan influence. There is a polygonal watch-tower and some balustrade work on the outside; but the interior is the finest part. One of the big halls is in general design something after the fashion of Tirumala Naik's famous hall in Madura; but the spandrels of the arches are one mass of carving of birds, flowers, &c., showing fancy and spirit, while the arches themselves are worked out in tracery, with a niche above each column containing some god or saint. Above the level of the spandrels is a deep colonnade running round the whole hall, corresponding to the clerestory of an English cathedral, also one mass of spirited carving in relief. Some equally fine woodwork is said to exist within the palace. The building deserves careful study from an historical and architectural point of view.

Udalguri.—Village in the Mangaldai subdivision of Darrang District, Eastern Bengal and Assam, situated in 26° 46′ N. and 92° 7′ E., near the foot of the Himālayas. A fair is held here during the cold season, which is attended by the inhabitants of Towang, a province subject to Lhāsa. The principal articles imported are ponies, sheep, blankets, salt, and yaks' tails. The chief exports are rice, cotton and silk cloths, and brass utensils. The head-quarters of the hillmen are at Amratol, which is picturesquely situated in the gorge of the Dhansiri river, about 6 miles beyond the frontier. A *darbār* is held at Udalguri in the winter, when the Tibetan officials, known as Gelengs, are presented with the *posa* allowed them by the British Government. The effect is very picturesque, as the hillmen are attired in rich costumes of Chinese pattern, and are attended by crowds of quaintly-dressed retainers mounted on shaggy ponies. The fort at Udalguri is garrisoned in the cold season by 46 officers and men of the Lakhimpur military police battalion.

Udamalpet Tāluk.—South-western *tāluk* of Coimbatore District, Madras, lying between 10° 16′ and 10° 48′ N. and 77° 3′ and 77° 25′ E., with an area of 566 square miles. It contains one town, UDAMALPET (population, 10,503), the head-quarters; and 86 villages. The population rose from 139,430 in 1891 to 150,480 in 1901. The unusually high proportion of 3 per cent. are Muhammadans, who are better educated than in any other *tāluk* in the District except Coimbatore.

The demand for land revenue and cesses in 1903-4 amounted to Rs. 2,48,000. The greater part of the *tāluk* is an open plain, but the south contains a large portion of the Anaimalai Hills, and consequently between half and a third of the *tāluk* is covered with forest. It is traversed by the upper waters of the Amarāvati, which irrigate a small area. The rainfall is small, averaging only 22 inches annually. Most of the land is red earth, but there are tracts of black cotton soil, and the area under cotton is large.

Udamalpet Town.—Head-quarters of the *tāluk* of the same name in Coimbatore District, Madras, situated in 10° 36′ N. and 77° 15′ E. Population (1901), 10,503, of whom about one-eighth are Muhammadans. It is an important centre of trade in cotton, grain, and cloth; and its chief inhabitants belong to commercial classes, such as Komatis, Nāttukottai Chettis, and Muhammadans. Its blacksmiths are well-known for their skill. A District Munsif is stationed here.

Udayagiri Tāluk (1).—Northernmost Agency *tāluk* of Ganjām District, Madras, lying between 19° 50′ and 20° 23′ N. and 84° 13′ and 84° 39′ E., with an area of 504 square miles. It is a wild tract, largely covered with hill and jungle and intersected by rapid torrents. The population, consisting mostly of Khonds, was 76,858 in 1901, compared with 73,384 in 1891. They live in 401 villages. The *tāluk* consists of the Goomsur Māliahs and the Koradā and Ronabā estates, the head-quarters being at Goomsur-Udayagiri. The Ronabā chief pays nothing to Government; the Koradā chief pays Rs. 15 yearly. In the Goomsur Māliahs, the Government derives revenue only from the Chokkapād *khandam*, managed as a *ryotwāri* area, which yielded a land revenue of Rs. 2,500 in 1903-4. A special feature of Udayagiri is that a large extent has been permanently reclaimed from jungle and is cultivated with 'dry crops.' The Khonds who inhabit it are no longer able to depend on hunting or jungle produce for a living, and are much more liable to suffer from famine than those in Balligudā. They are, however, better educated.

Udayagiri Tāluk (2).—*Tāluk* of Nellore District, Madras, lying between 14° 35′ and 15° 7′ N. and 79° 5′ and 79° 38′ E., with an area, including *zamīndāri* villages, of 871 square miles, of which Government villages occupy 360 square miles. The population in 1901 was 95,173, compared with 100,227 in 1891. The *tāluk* contains 134 villages, the head-quarters being at UDAYAGIRI (population, 4,021). The demand on account of land revenue and cesses in 1903-4 amounted to Rs. 74,000. The extreme north and north-west of the *tāluk* are occupied entirely by the villages of the KĀLAHASTI ESTATE. The west is hilly; and the soil is stony and sterile towards the hills, becoming more fertile towards the east. The Manneru and its affluent the Pillaperu drain the north, and the Boggeru with its affluents the south.

The beds of these streams are low, and they afford no facilities for direct irrigation. It is in contemplation to restore the Gandipālem tank, a large reservoir fed by the Pillaperu. The chief sources of water-supply are wells, of which 1,942 are in repair. These are deep square pits excavated in stony strata, which cannot be depended upon in years of short rainfall. The 150 wells on the river banks afford better irrigation. The tanks, numbering 41, are rain-fed and afford but a precarious supply. The prohibitive cost of wells, and the absence of demand for the grains (*rāgi* and *cambu*) which are usually irrigated from them, prevent any appreciable increase in their number. Owing to the want of facilities for irrigation, the natural poverty of the soil, and the uncertain rainfall, the *tāluk* is subject to frequent scarcities, and emigration is common. The crops usually grown are *cambu*, castor, cotton, indigo, and *aruga* with the south-west monsoon; and rice, *cholam*, and *rāgi* with the north-east rains. Tobacco is raised by well-irrigation for local consumption.

Udayagiri Village.—Head-quarters of the *tāluk* of the same name in Nellore District, Madras, situated in 14° 53′ N. and 79° 18′ E. Population (1901), 4,021. It was formerly a place of importance. The walls which once encircled the town have almost entirely disappeared, but much of the fortifications on the neighbouring hill to the west still remains. The fort originally consisted of thirteen separate strongholds, eight on the hill and five below. Inside the walls are the remains of tombs, temples, and palaces. Part of the hill is so precipitous as to be inaccessible, the cliffs being in places nearly 1,000 feet high, and every path up was commanded by lines of defences. Tradition states that in the fourteenth century it was the capital of a kingdom founded by Lāngūla Gajapati. It fell into the hands of Krishna Deva of Vijayanagar in 1512. Afterwards it was nominally under the Golconda dynasty, but was held by semi-independent chiefs. On the top of the hill is a mosque, in which are two Persian inscriptions referring to its construction in 1660 by Shaikh Husain in the reign of Sultān Abdullah of Golconda, and to the planting of a garden near by. The *jāgīr* of Udayagiri was granted by the Nawābs of Arcot to a certain Mustafa Alī Khān. The last of his descendants was deported to Chingleput in 1839 for treasonable conduct, and the *jāgīr* was resumed. The village is supplied with fresh water by an open channel from the springs on the hill. It contains hospitals and schools maintained by the local board and the American Baptist Mission.

Udayagiri.—Ancient site in the Bhīlsa district of Gwalior State, Central India, situated in 23° 32′ N. and 77° 46′ E., between the Betwā and the Besh rivers, 4 miles from Bhīlsa, on the Midland section of the Great Indian Peninsula Railway. The place is important on account of the interesting rock-cut temples excavated in an isolated sand-

stone hill, and the numerous Buddhist remains in the neighbourhood. The hill lies from north-west to south-east, and is about three-quarters of a mile long, rising to a height of 350 feet above the plain. Some of the numerous caves contain records, dated and undated, of considerable historical importance. The finest in the series are those numbered 3, 4, 9, and 10 in the Survey Report quoted below.

The third cave, which measures about 14 feet by 12 feet, has a finely ornamented doorway, and formerly possessed a structural portico; in a small adjoining room behind the portico is a representation of the Ashtamātri or 'eight female energies.' Cave No. 4 is remarkable for a colossal representation of the Varāha Avatār, the third incarnation of Vishnu, in which he is, as usual, represented raising the earth out of the engulfing waters. The descent of the Ganges and the Jumna are also depicted here. The best cave is perhaps the ninth, measuring 22 feet by 19 feet, with a roof supported by four massive pillars with richly carved capitals. The remains of a fine portico stand before it. The only Jain cave on the hill (No. 10) is dedicated to the twenty-third Tīrthankar, Pārasnāth. The main excavation, which is 50 feet by 16 feet, is divided into five compartments, the southernmost room being again subdivided into three. Numerous Buddhist relics have been found, both on the hill and in the country round it, including a monolithic pillar, a lion capital, a large stone trough, and other smaller remains. The records are interesting, as giving the date of the conquest of Mālwā and Gujarāt by Chandra Gupta II of Magadha. Of the other records, one in the Jain cave is dated in A.D. 425–6 and another in 1037.

[A. Cunningham, *Archaeological Survey Reports*, vol. x, p. 46; *Corpus Inscriptionum Indicarum*, vol. iii, pp. 21, 34, and 259; *Indian Antiquary*, vol. xviii, p. 185; vol. xiv, p. 61.]

Udayagiri Hill ('Sunrise hill') (1).—One of the peaks of the Assia range in the Jājpur subdivision of Cuttack District, Bengal, situated in 20° 39′ N. and 86° 15′ E., so called from its being the most easterly of the hills in that District. The hill is in the form of an amphitheatre, and in the centre are some Buddhist remains. Here stood a temple consisting of three parts: a sanctuary containing a colossal image of Buddha in a sitting and meditative posture, a porch now in ruins, and a brick wall encircling the temple with a gate facing the east. The image, which is now buried up to the breast, seems with the pedestal to be about 10 feet high. North of the temple are two well-carved images of Bodhisattva, and farther north two more images of Bodhisattva have recently been found. To the west of the temple is a well; and at the entrance to the amphitheatre is a large image of the two-handed Padmapānī Bodhisattva, cut out of a single gneiss slab standing on a pedestal, in all about 8 feet high.

Udayagiri Hill (2).—Sandstone hill in the Khurdā subdivision of Purī District, Bengal, situated in 20° 16′ N. and 85° 47′ E. *See* KHANDGIRI.

Udayamperūr (or Diamper).—Town in the Vaikam *tāluk* of Travancore State, Madras, situated in 9° 55′ N. and 76° 25′ E. Population (1901), 5,327. Alexis de Menezes held here the famous synod of Diamper in 1599, a most important event in the history of the Syrian Church in Malabar.

Udayapur.—Village in the Bhīlsa district of Gwalior State, Central India, situated in 23° 54′ N. and 78° 4′ E., 4 miles by road from Bareth station on the Midland section of the Great Indian Peninsula Railway. Population (1901), 928. Numerous traces of its importance in Hindu times are scattered round, but those now prominent are chiefly Muhammadan. The old market square has colonnaded sides, and the fort wall is pierced by several gates, some Hindu and some Muhammadan. Half a mile south is a rocky hill, on which are the remains of an old wall built of uncemented stone blocks, which must once have enclosed a place of great strength. Of the three old temples still standing in the village, the great fane of Udayesvara is the only one of special interest. Built of a fine red sandstone and standing on a lofty platform crowned by a fine spire, its proportions are so admirable that it has no appearance of clumsiness. It is profusely adorned with sculpture, while the pillars which support the roof, though massive, are of great beauty. The seven smaller temples, which once surrounded the central shrine, are now in ruins, one having been removed to make way for a mosque. Tradition assigns the temple to Udayāditya Paramāra, and a long inscription, of which half has been lost, gives a list of the princes of this dynasty up to Udayāditya. The mosque was built in the time of Muhammad Tughlak II, as an inscription of 1336 shows. Numerous records have been found in this temple. One states that Udayāditya was ruling in 1080. Two are especially interesting, as showing that this district of Mālwā was held by the Chālukya kings of Anhilvāda Patan from 1163 to 1175. Other records refer to Devapāla of Dhār (1129).

[*Epigraphia Indica*, vol. i, p. 222; *Indian Antiquary*, vol. xviii, p. 341; vol. xx, p. 83.]

Udgīr Tāluk.—*Tāluk* in Bīdar District, Hyderābād State. The population in 1901, including *jāgīrs*, was 101,228, and the area was 681 square miles. In 1891 the population was 121,467, the decrease being due to the famine of 1899–1900. The *tāluk* contains one town, UDGĪR (population, 5,984), the head-quarters; and 207 villages, of which 54 are *jāgīr*. The land revenue in 1901 was 3·1 lakhs. The soils are chiefly *regar* or black cotton soil and some laterite. In 1905 some villages were transferred to the Deglūr *tāluk* of Nānder District, while

other villages were added from Varvāl-Rājūra. The *jāgīr tāluk* of Mirag with a population of 21,734, containing 45 villages, lies between this and the Bīdar *tāluk*.

Udgīr Town.—Head-quarters of the *tāluk* of the same name in Bīdar District, Hyderābād State, situated in 18° 24′ N. and 77° 7′ E. Population (1901), 5,984. The fort belonged to the Bijāpur kings, and was besieged by Shāh Jahān's general in 1635, and surrendered to him. In 1760 a great battle was fought here between the Nizām and the Marāthās. Nizām Salābat Jang and his brother occupied Udgīr with 7,000 cavalry, but were surrounded by 60,000 Marāthās. Desperate fighting continued for days, and the Nizām was forced to agree to the terms of peace imposed by the Marāthās. The fort was built about 1493, and has a ditch all round. Two palaces are situated inside, and two outside, but all are in ruins.

Udhuā Nullah.—Village and stream in the District of the Santāl Parganas, Bengal, situated in 24° 0′ N. and 87° 50′ E. It was the site of the defeat of the army of the Nawāb Mīr Kāsim by Major Adams in 1763.

Udipi Tāluk.—*Tāluk* in South Kanara District, Madras, lying between 13° 7′ and 13° 38′ N. and 74° 42′ and 75° 9′ E., with an area of 719 square miles. It contains one town, UDIPI (population, 8,041), the head-quarters; and 157 villages. The population in 1901 was 251,831, compared with 242,439 in 1891, showing an increase of 3·9 per cent. The demand for land revenue and cesses in 1903–4 amounted to Rs. 4,41,000. Rice and coco-nuts are the principal products, as in the rest of the District. There are some fine areca gardens in the vicinity of the Western Ghāts on its eastern boundary. The *tāluk* as a whole is exceedingly prosperous, the coast tract being exceptionally fertile. Coco-nut gardens fringing the backwaters and tidal reaches of the rivers are a feature of the country.

Udipi Town.—Head-quarters of the *tāluk* of the same name in South Kanara District, Madras, situated in 13° 21′ N. and 74° 45′ E. Population (1901), 8,041. The Krishna temple here, said to have been founded by Madhvāchāryā, the great Vaishnav reformer, in the thirteenth century, is largely resorted to by pilgrims. There are also eight ancient *maths* (religious houses), and each of the heads of these presides in turn over the Krishna temple for two years. The most important festival is the Pariyāya, celebrated at the change of these incumbents in January of every second year.

Ughi.—Head-quarters of the Hazāra border military police, North-West Frontier Province. *See* OGHI.

Ujhānī.—Town in the District and *tahsīl* of Budaun, United Provinces, situated in 28° 1′ N. and 79° 1′ E., on the Rohilkhand and Kumaun Railway, 8 miles west of Budaun town. Population (1901),

7,917. According to tradition, it was originally called Pipariā, from the number of *pīpal* trees here, and the name was changed by Mahipāl of Ujjain. Under the Rohillas it became the residence of Abdullah Khān, second son of Alī Muhammad, who died here of snake-bite. Shortly after British rule commenced, a revolt was raised at Ujhānī over the collection of revenue. The town, though chiefly built of mud, has a flourishing appearance, and the main streets are paved. The mosque and unfinished tomb of Abdullah Khān are the principal buildings. The American Methodist Mission has a branch here. Ujhānī has been a municipality since 1884. During the ten years ending 1901 the income and expenditure averaged Rs. 5,000. In 1903-4 the income was Rs. 7,000, of which Rs. 3,000 came from a tax on circumstances and property; and the expenditure was Rs. 7,000. There is a small export trade in *ghī*, sugar, and grain; and sugar-refining is the chief industry. Indigo was formerly manufactured largely, but the trade has declined. The municipality manages two schools and aids two others, attended by 328 pupils.

Ujjain Zila.—District in the Mālwā division of the Gwalior State, Central India, lying between 22° 47′ and 23° 36′ N. and 75° 10′ and 76° 3′ E., with an area of 1,505 square miles. The population in 1901 was 209,670, giving a density of 139 persons per square mile. The district contains three towns, UJJAIN (population, 39,892), the head-quarters, BARNAGAR (10,856), and KHĀCHROD (9,186); and 667 villages. It lies in a tract of high fertility drained by the Chambal and Siprā and many minor streams, and produces much poppy, as well as the ordinary grains. The district is divided into three *parganas*, of which the three towns mentioned above are the head-quarters. The land revenue is Rs. 9,86,000.

Ujjain Town.—Town in the State of Gwalior, Central India, situated in the centre of Mālwā, of which it is the traditional capital, in 23° 11′ N. and 75° 47′ E., on the Ujjain-Bhopāl Railway.

Ujjain, which has always been renowned among Hindus for its sanctity, stands on the right bank of the sacred river Siprā, and is rectangular in shape, covering an area of over 2 square miles. It was formerly surrounded by a wall, built in the fifteenth century, of which, however, only portions now remain. The old city, which appears to have been destroyed either by earthquake or by an unusual flood on the river, was situated 2 miles north of the present town. On its site the traces of old foundations are still visible, and numerous antique jewels, beads, seals, ornaments, and copper coins are found during the rains. Population has risen from 34,691 in 1891 to 39,892 in 1901. Hindus number 27,639, or 69 per cent.; Musalmāns, 10,539, or 26 per cent.; and Jains, 1,259, or 3 per cent. The city is divided into numerous wards. Among them may be noticed Jayapura, named after

Sawai Jai Singh of Jaipur, who, when governor of Mālwā, erected an observatory in this part of the city, of which the remains are still standing. The Bohrā Bākhal consists of three wards inhabited by the Bohrā trading community, whose members are Shiahs, and include the principal merchants of the city. The ward known as the Kot or fort occupies the elevated ground to the north of the town, which is said in former days to have lain outside the old city in the great Mahākālban or forest of Mahākāl. Here stands the temple of Mahākāl, on the site of the famous structure destroyed by the iconoclast Altamsh in 1235. Near it is a palace formerly the residence of Daulat Rao Sindhia. The remaining wards are, as a rule, called after the classes which inhabit them. Many of the houses are adorned with fine carved balconies and fronts; but few are of any size, and the town has a general air of decline, in spite of its increasing population. A large market is held every Wednesday for commercial purposes. Three times a year a religious fair takes place at the Sivarātri, in the month of Māgh (February), and on the full moons of Baisākh (May) and Kārtik (November). Besides these yearly meetings, a great religious gathering called the Sinhast fair is held once in twelve years.

Ujjain is one of the seven sacred cities of India, not yielding even to Benares in sanctity. Orthodox Hindus believe that it has existed from time immemorial; and according to the Tantras, it is the *pīthasthāna* at which the elbow of Satī fell, on the dismemberment of her body by Siva. It is also the first meridian of longitude of the Hindu geographers. In early days Ujjain was known as Avantī, and the surrounding country as Avantidesh. This name was certainly in use as late as the second century, and even occurs in an inscription of the tenth, while it is still employed by Brāhmans in devotional exercises.

The early history of the place is lost in the mists of antiquity, but it appears to have soon become a place of importance under the Aryan tribes who settled in Mālwā. In Buddhist literature, the kingdom of Avantī is described as one of the four great powers of India, while a romantic legend is related of the elopement and marriage of Vasuladatta, daughter of king Pajjota of Ujeni, with king Udena of the neighbouring realm of Kausāmbhī. At Ujjain there was at one time a Buddhist monastery known as the Southern Mount, while it was the birthplace of Kachāna, one of Sākyamuni's greatest disciples. Ujjain was the central mart for all produce entering from the western coast, and at the same time the principal stage on the route from the Deccan to Srāvastī, then the capital of the great kingdom of Kosala.

The first historical mention of Ujjain is on the rise of the Mauryan empire, when Asoka, afterwards emperor and the greatest upholder of Buddhism, was sent to Ujjain as viceroy of the western provinces. Nothing is again heard of Ujjain till the second century A.D., when

it became the capital of the Western Kshatrapa dominions under Chāshtana. It was at this time known to the classical writers, as Ptolemy (A. D. 150) mentions Chāshtana as Tiastenos of Ozene, while in the *Periplus* of the Erythrean Sea, written a century later, Ozene is noted as a trading centre whence onyx stones, porcelain, fine muslins, mallow-coloured muslins, and no small quantities of ordinary cottons, as well as spikenard, costus, and bdellium, were exported through the port of Barugaza or Broach near Surat. For close on three centuries it remained in the hands of the Kshatrapas, till about 400, when it passed to Chandra Gupta II of Magadha. The Gupta occupation is of special interest, as there are some grounds for believing that the expulsion of the unorthodox foreign Kshatrapas and the contemporary revival of Brāhmanism gave rise to the well-known tradition of Vikramājīt of Ujjain, the King Arthur of India, at whose court the 'nine gems,' the brightest geniuses of India, are supposed to have flourished.

In the seventh century, Ujjain was included in the empire of Harshavardhana of Kanauj. After his death in 648, a period of revolution and unrest obtained till the rise of the Rājput clans in the ninth century, when Ujjain fell to the Paramāras. From the ninth to the twelfth century the Paramāras became so identified with Ujjain that subsequent tradition has converted Vikramāditya of Ujjain into a Paramāra. During this period Ujjain suffered the usual fate of cities in those days, and was continually sacked by the neighbouring chiefs, the Chālukyas of Gujarāt, the Kalachuris of Chedi, the Chandels of Bundelkhand, the Rāshtrakūtas of Mālkhed, and other Rājput clans. On the decline of the Paramāra power in the end of the eleventh century, the place appears to have fallen temporarily to the Tonwars and Chauhāns. In 1235 Altamsh, who had just taken Bhīlsa, marched on Ujjain and sacked it, destroying all the temples, and among them the renowned shrine of Mahākāl, famous wherever the Hindu religion existed, taking away the *lingam* to Delhi.

From this time Ujjain remained a Muhammadan possession till the eighteenth century. From 1401 to 1531 it was included in the kingdom of Mālwā, but, not being the capital, was of no especial importance. In 1562 it fell to Akbar, and became the chief town of the *Sūbah* of Mālwā. In 1658 took place the battle near Ujjain, in which Aurangzeb and Murād defeated Jaswant Singh of Jodhpur, who was fighting on behalf of prince Dārā. The actual scene of the battle is Dharmatpur, renamed Fatehābād by Aurangzeb after the victory, and now a station on the Rājputāna-Mālwā Railway. The cenotaph of Rājā Ratan Singh of Ratlām, who fell in the fight, still stands on the field of battle. In 1733, during the reign of Muhammad Shāh, Mahārājā Sawai Jai Singh of Jaipur was made governor of Mālwā. In 1743 Bājī Rao Peshwā became deputy-governor, and Ujjain finally passed to Sindhia about

1750. Until 1810, when Daulat Rao Sindhia founded his new capital of Lashkar, Ujjain was the chief town of his dominions. In 1799 it was sacked by Jaswant Rao Holkar.

The town is managed by a municipality, established in 1898. The municipal income amounts to Rs. 18,000 per annum, derived mainly from octroi. A water-supply scheme has been completed. Ujjain is the head-quarters of the *Sar Sūbah* of the Mālwā *prānt*, and contains two State hospitals, a dispensary belonging to the Canadian Presbyterian Mission, who have a station in the town, the Mādhav College teaching up to the university entrance standard, and seven schools for boys and one for girls. Numerous private institutions for teaching Sanskrit and the vernaculars are situated in the town.

As already stated, Ujjain was a celebrated mart early in the Christian era. Its commercial importance declined at the beginning of the nineteenth century, owing to the establishment of Lashkar as the capital of the Gwalior State and the rise in importance of Indore, but was revived between 1880 and 1897 by the opening of the Ujjain-Ratlām-Godhra branch of the Bombay, Baroda, and Central India Railway, the Ajmer-Khandwā branch of the Rājputāna-Mālwā Railway, and the Ujjain-Bhopāl Railway. A considerable trade is now carried on, mainly with Bombay, in cotton, grain, and opium. One of the Government dépôts at which duty is paid upon the last commodity has been established here.

Ujjini.—Village on the southern frontier of the Kūdligi *tāluk* of Bellary District, Madras, situated in 14° 43′ N. and 76° 18′ E. Population (1901), 2,975. The place is held in great reverence by Lingāyats, as it is the seat of one of the five Simhāsanaswāmits, or religious heads of the sect. The *math* of this *gurū* is the most notable building in the village, and contains within its walls a temple to Siddheswaraswāmi. A carved lotus on the ceiling of one of the compartments of the *mantapam* in front of the shrine is famous in this part of the country. The tower over the shrine itself is so blackened with the many oily oblations which have been poured over it that the ornament on it is almost obliterated.

Ula.—Town in Nadiā District, Bengal. *See* BĪRNAGAR.

Ullāl.—Village in the Mangalore *tāluk* of South Kanara District, Madras, situated in 12° 50′ N. and 74° 51′ E., on the south bank of the Netravāti river opposite to Mangalore town. It was once the seat of a Jain family of some local importance in the sixteenth and seventeenth centuries. The Italian traveller Della Valle (1623) mentions the queen of Olaya. With the exception of a ruined temple at Somnāth, about a mile to the south, which contains sculptures of peculiar design, hardly a trace is now left of the former importance of the place. It is at present a straggling bazar with some trade, but depending for its

prosperity mainly on the transport of passengers and goods to and from Mangalore and elsewhere, an occupation which gives employment to a large number of Māppilla boatmen. The population in 1901 was 6,181.

Ulubāria Subdivision.—Southern subdivision of Howrah District, Bengal, lying between 22° 13′ and 22° 47′ N. and 87° 51′ and 88° 12′ E., with an area of 337 square miles. The subdivision is a low-lying alluvial tract, watered by the Hooghly, Rūpnārāyan, and Dāmodar. The population in 1901 was 419,257, compared with 397,329 in 1891, the density being 1,244 persons per square mile. It contains one town, ULUBĀRIA (population, 5,395), the head-quarters; and 1,085 villages.

Ulubāria Town.—Head-quarters of the subdivision of the same name, Howrah District, Bengal, situated in 22° 28′ N. and 88° 7′ E., on the right bank of the Hooghly, 15 miles south of Howrah. Population (1901), 5,395. Ulubāria is the starting-place of the MIDNAPORE CANAL, and a station on the Bengal-Nāgpur Railway. The road to Midnapore and Orissa crosses the Hooghly at this point by a ferry. Daily services of steamers run from Calcutta to Ulubāria, and also via Ulubāria to Ghātāl. A large weekly cattle market is held here. Ulubāria was constituted a municipality in 1903. In 1903-4 the income was Rs. 3,000, of which Rs. 2,000 was derived from a tax on persons (or property tax); and the expenditure was Rs. 2,600. The town contains the usual public offices; the sub-jail has accommodation for 10 prisoners. In 1687 Job Charnock settled at Ulubāria for a short time before laying the foundation of Calcutta.

Ulvi.—Village in the Haliyāl *tāluka* of North Kanara District, Bombay, situated in 15° N. and 74° 30′ E. Population (1901), 191. It contains a Lingāyat shrine in honour of Basava, the founder of the Lingāyat religion, who died at Ulvi in 1150. There are some temples of great antiquity. The Budbud Tale or 'bubble well' is another object of interest, and is held in much reverence. A religious fair is held annually, at which nearly 5,000 pilgrims assemble. Since 1878 the provisions of the municipal law have been applied during the period for which the fair is held.

Ulwar.—State and capital thereof in Rājputāna. *See* ALWAR.

Umari.—Petty State in MAHĪ KĀNTHA, Bombay.

Umariā.—Town in the Rewah State, Central India, and centre of a coal-field, situated in 23° 32′ N. and 80° 53′ E., on the Katnī-Bilāspur branch of the Bengal-Nāgpur Railway; 1,500 feet above the sea. Population (1901), 5,381. The town came into existence on the opening of the mines in 1881. The coal-fields are situated in the upper and lower Barākar divisions of the Gondwānas. The former rock consists of variegated clays, the latter of sandstones and shales, through which

the coal seams run. The field has a dip of 1 in 16, towards the north-east on its western side, towards the north-west on the eastern border, and northwards in the centre. The seams at places reach a thickness of 31 feet. Borings show that the area occupied by the coal is very extensive, the proved area being estimated to contain 24 million tons. The coal is, except in a few places, of a dull laminated variety much impregnated with fossilized resins. It does not coke well, and gives a white ash, forming little or no clinker. The coal is worked through both pits and inclines by the pillar and stall method, the pillars being destroyed on reaching the coal boundary. The gallery roofs are supported with logs of *sāl* from the State forests. Eight seams have been opened, of which two are now worked. The output is regulated by the demand; but the mine could, if required, supply 1,000 tons a day, though the actual maximum output in any one day has been 890 tons. Between 1883 and 1903, 1·9 million tons were extracted. The Great Indian Peninsula Railway Company takes 70 per cent. of the output. The mine was worked by the State from 1881 to 1885, when it was taken over by the Government of India. In 1900 it was replaced under the Darbār. The workers include 312 Musalmāns, 295 Kols, and 102 Gonds, the rest belonging to various classes. The average number of workers is: above ground, 224 men and 6 women; below ground, 1,258 men and 235 women; total, 1,723. A hewer earns about 5 annas a day, a tram-pusher 3 annas, and mates Rs. 12 to Rs. 25 a month. Accidents have been very few, but a hospital is maintained in connexion with the colliery. The European managing staff consists of a superintendent and manager, a deputy-manager and surveyor, an overman, and an underlooker, all of English experience, with other locally trained subordinates. A post and telegraph office is maintained in the town.

[*Economic Geology of India* (1905); *Records, Geological Survey of India*, vol. xxxii, pt. i (1906).]

Umarkot Tāluka.—*Tāluka* of Thar and Pārkar District, Sind, Bombay, lying between 24° 49′ and 25° 45′ N. and 69° 30′ and 70° 13′ E., with an area of 1,461 square miles. The population in 1901 was 49,118, compared with 43,128 in 1891. The *tāluka* contains one town, UMARKOT (population, 4,924), the head-quarters; and 110 villages. The density, 34 persons per square mile, slightly exceeds the District average. The chief crop is *bājra*. Land revenue and cesses in 1903–4 amounted to 1·6 lakhs. Half of the *tāluka* is in the Thar and depends on rain for its cultivation, and the other half is irrigated by the Thar Wah Canal.

Umarkot Town.—Head-quarters of Thar and Pārkar District, Sind, Bombay, situated in 25° 21′ N. and 69° 46′ E. It stands on the confines of the sandhills forming the eastern desert; and a canal, known as the

Umarkot branch, leading out from the Nāra, now reaches the town, tailing off into a large tank. Population (1901), 4,924. Umarkot has direct communication with Chor station on the North-Western Railway by a good road, 7 miles long. The town contains a fort, about 500 feet square, the usual garrison of which, when in the possession of the Tālpur Mīrs, was 400 men. It is reported to be nearly 700 years old, and forms a stately centre to the town. At present, the principal Government buildings are situated within this stronghold. The chief employments of the inhabitants are agriculture and cattle-breeding. The Hindus devote their attention also to trade, several of the Umarkot merchants being wealthy men. There is a local trade in grain, *ghī*, camels, cattle, and tobacco, while the transit trade is concerned with cotton, metals, dyes, dried fruits, *ghī*, grain, oil, piece-goods, wool, and tobacco. The manufactures are confined to the making of coarse cloths. The town of Umarkot is said to have been founded by one Umar, a chief of the Sūmra tribe, but at what date is not known. Its historical importance is due to its position on the main route from Hindustān to Sind. Here, in October, 1542, was born Akbar, the son of Humāyūn, the exiled Mughal emperor, then on his flight to Afghānistān. The presumed spot of Akbar's birth is marked by a stone slab, with an inscription. It was through this town that Akbar, when emperor, marched in 1591 to conquer Sind. In 1813 Umarkot was captured by the Tālpur Mīrs from the Rājā of Jodhpur, in whose possession it had been for some time; and after their downfall in 1843 it passed to the British. Rāna Ratān Singh, one of the most troublesome of the Soda chiefs, was executed here in the early days of British rule. The temple of Mahādeo, 3 miles north-east of Umarkot, is visited by large numbers of Hindus. The municipality, established in 1860, had an average income during the decade ending 1901 of Rs. 14,000. In 1903-4 the income was also Rs. 14,000. The town contains a dispensary and two primary schools, one for boys with 180 pupils and the other for girls with 102. To the former is attached a technical school which teaches carpentry and smith's work.

Umballa.—District, *tahsīl*, and town in the Delhi Division, Punjab. *See* AMBĀLA.

Umbeyla.—Mountain pass in Buner, North-West Frontier Province. *See* AMBELA.

Umeta.—Petty State in REWĀ KĀNTHA, Bombay.

Umiām.—River of Assam, which rises in the Khāsi Hills, a little to the north of Maoflang, and flows along a deep and precipitous gorge near the station of Shillong. At Barpāni it is spanned by a fine iron bridge on the cart-road between Shillong and Gauhāti, and from that point it flows north-east towards the Jaintiā Hills. For some distance it forms the boundary between the Khāsi and the Jaintiā Hills, and

finally falls into the Kapili in Nowgong District, where it is known as the Kiling river, after a course of 81 miles.

Ummattūr.—Village in the Chāmrājnagar *tāluk* of Mysore District, Mysore, situated in 12° 4′ N. and 76° 54′ E., 15 miles south-east of Nanjangūd railway station. Population (1901), 2,081. The Rājās of Ummattūr were among the most powerful chiefs in the south of Mysore. They had a fort on the island of Sivasamudram, where was the temple of their family god, and they also held parts of the Nīlgiris. At the beginning of the sixteenth century Ganga Rājā assumed independence and acquired Bangalore District and other tracts, the whole being called the Sivasamudram country; and he even claimed Penukonda. He was put down by Krishna Rāya of Vijayanagar about 1510. The Ummattūr rulers were the earliest rivals of the Rājās of Mysore, and on one occasion by a treacherous massacre nearly exterminated the Kalale chiefs, who were allies of the latter. One infant, however, escaped, and grew up to restore the fortunes of his family, and the Kalale chiefs became the hereditary Dalavāyis of the Mysore State. The Vijayanagar viceroy at Seringapatam was disposed to make over his authority to the Ummattūr chief, who was in some way related to him; but the Mysore Rājā secured it in 1610, and in 1613 took Ummattūr and annexed its possessions to Mysore. It is now one of the endowments of the Chāmarājesvara temple at Chāmrājnagar.

Umrāwatī.—District, *taluk*, and town in Berār. *See* AMRAOTĪ.

Umrer Tahsīl.—Southern *tahsīl* of Nāgpur District, Central Provinces, lying between 20° 35′ and 21° 11′ N. and 78° 56′ and 79° 40′ E., with an area of 1,040 square miles. The population in 1901 was 136,476, compared with 149,350 in 1891. The density is 131 persons per square mile. The *tahsīl* contains one town, UMRER (population, 15,943), the head-quarters; and 457 inhabited villages. Excluding 74 square miles of Government forest, 71 per cent. of the available area is occupied for cultivation. The cultivated area in 1903–4 was 564 square miles. The demand for land revenue in the same year was Rs. 2,41,000, and for cesses Rs. 22,000. The *tahsīl* contains a large area of wheat-growing land broken by low ranges of isolated hills. It has a heavier rainfall than Nāgpur, and rice is grown towards the eastern border.

Umrer Town.—Head-quarters of the *tahsīl* of the same name in Nāgpur District, Central Provinces, situated in 20° 52′ N. and 79° 20′ E., 29 miles south-east of Nāgpur city on the metalled road to Mūl in Chānda. Population (1901), 15,943. Umrer is the eleventh town in the Province in size. It contains a Marāthā fort and an old temple inside it with walls 17 feet thick, which is supposed to have been built by Rājā Kārn Sāh of Chānda in the sixteenth century. Umrer was created a municipality in 1867. The municipal receipts during the decade ending 1901 averaged Rs. 17,400. In 1903–4 the income was

Rs. 24,000, principally derived from octroi. The staple industry of Umrer is the weaving of cotton cloths with silk borders by hand. White loin-cloths with red borders are generally woven, the thread being dyed with lac. About 10,000 persons are dependent on the industry. Umrer possesses English middle, girls', and private Urdū schools, and a dispensary. A small weekly cattle market is held.

Umreth.—Town in the Anand *tāluka* of Kaira District, Bombay, situated in 22° 42′ N. and 73° 7′ E., on the Godhra branch of the Bombay, Baroda, and Central India Railway, 14 miles north-east of Anand and 5 miles south-by-west of Dākor. Population (1901), 15,549. It is one of the most populous and wealthy towns in the District. Near the town is a step-well estimated to be nearly five hundred years old. It has five storeys and 109 steps, and is ascribed to Sidhrāj, king of Anhilvāda. The municipality was established in 1889. The income during the decade ending 1901 averaged Rs. 12,000. In 1903-4 the income was Rs. 14,000. The town has a cotton-ginning factory, a Sub-Judge's court, a dispensary, and 2 English middle schools with 195 pupils. It also contains 5 vernacular schools, 4 for boys and one for girls, attended by 458 and 110 pupils respectively.

Umrī.—Petty chiefship in the Central India Agency, under the Resident at Gwalior, with an area of about 60 square miles, and a population (1901) of 2,469. The chiefs of Umrī and BHADAURĀ are Sesodia Rājputs of the Sāgarāvat branch, being descended from a younger son of Rājā Udai Singh (1537–72), the founder of Udaipur, called Sāgarjī, who, with Akbar's assistance, managed for a time to seize the rule of Mewār from his brother. Pratāp Singh, fifth in descent from Sāgarjī, contrived in 1636, with the support of the Nawāb of Nāhargarh, a Rāthor Rājput who had turned Muhammadan, to seize Umrī, then in the possession of Thākur Pahlād Singh, a Tagara Rājput. Pratāp's daughter was married to Rājā Rām Singh of Kotah, who was killed at the battle of Jājau in 1707. Pratāp's son Himmat, who was in the service of the Kotah State, had three sons, of whom Jagat Singh received Bhadaurā and other villages, Jai Singh received villages now included in Bhadaurā and Umrī, and Khiaoda Man received certain villages, some of which form the Khiaoda estate. (*See* table, GWALIOR RESIDENCY.) In the Marāthā period these estates lost much territory. The present ruler is Pirthī Singh, who succeeded in 1882, and bears the hereditary title of Rājā.

The tract in which the State is situated is somewhat broken up by small hills, but the soil in the valleys is fertile, and the people are well-to-do. The total revenue is Rs. 6,000, the cost of administration being Rs. 3,500. Till 1897 the revenue was paid in the *Phūl shāhi* coinage struck at Rāghugarh, Shādora, and Chanderī; but it is now collected in British rupees.

Umrī, the chief place, is situated in 24° 45′ N. and 77° 19′ E. Population (1901), 581.

Umta.—Town in the Kherālu *tāluka* of the Kadi *prant*, Baroda State, situated in 23° 47′ N. and 72° 33′ E. Population (1901), 5,242. It possesses a vernacular school.

Umthru.—River in the Khāsi and Jaintiā Hills, Eastern Bengal and Assam. *See* DIGRU.

Un.—Old site in the Nimār district of Indore State, Central India, situated in 21° 49′ N. and 75° 28′ E. Population (1901), 1,256. The place, though formerly of some size, is now only a small village, its importance consisting in the old Jain temples which still stand there. These belong to the twelfth century, and one contains an inscription of one of the Paramāra kings of Dhār. Considerable damage was done to the temples by a Muhammadan contractor employed by Tukojī Rao Holkar II to build tanks, who used these buildings as a quarry. A State post office and a school are maintained in the village.

Una Tahsīl.—*Tahsīl* of Hoshiārpur District, Punjab, lying between 30° 59′ and 31° 52′ N. and 75° 56′ and 76° 38′ E., with an area of 717 square miles. It consists of the broad and stony valley of the Sohān between the inner and outer SIWĀLIK HILLS, which near the Beās rises into the Jaswān Dūn, a plateau or upland valley about 1,400 feet above sea-level. The Jandbārī *tāluka*, a small piece of territory on the left bank of the Sutlej, is also included in this *tahsīl*. The population in 1901 was 225,198, compared with 229,308 in 1891. It contains the towns of UNA (population, 4,746), the head-quarters, and ANANDPUR (5,028); and 523 villages. The land revenue and cesses in 1903–4 amounted to Rs. 3·2 lakhs.

Una Town.—Head-quarters of the *tahsīl* of the same name in Hoshiārpur District, Punjab, situated in 31° 28′ N. and 76° 17′ E., in the Jaswān Dūn. Population (1901), 4,746. It is important as the seat of a branch of the Bedi clan who trace their descent, through Kala Dhāri, from Nānak, the first Sikh Gurū; but it has no commercial importance. The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 2,700 and the expenditure Rs. 2,600. In 1902–3 the income was Rs. 3,800, chiefly derived from octroi; and the expenditure was Rs. 2,900. It maintains a vernacular middle school and a Government dispensary.

Una-Delvāda.—Twin towns in the State of Junāgarh, Kathiāwār, Bombay, situated in 20° 49′ N. and 71° 5′ E., on the bank of the Machundri river. The population of Una in 1901 was 6,628. The ancient town of Una was called in Sanskrit Unat Drug ('the lofty fortress'), and was situated close to the present town, which was then known under the name of Delvāda. Hence Una and Delvāda were almost synonymous. In former times Una-Delvāda was ruled by

Unevāl Brāhmans; but on their offering an affront to the bride of Vejal Vājo, the latter stormed the town and put many of the inhabitants to the sword. As Unat Drug had become defiled by the slaying of Brāhmans, the population moved into the adjacent town of Delvāda, which was hereafter called Una. Afterwards, when Una had fallen under Muhammadan rule, a new town was founded about 3 miles south of Una; and to this town the old name of Delvāda was given. Under the Sultāns of Gujarāt, Una and Delvāda were of much importance, from their proximity to the island fortress of Diu, from which Delvāda is about 4 miles and Una 7 miles distant.

Unābdev.—Place of interest in the Chopda *tāluka* of East Khāndesh District, Bombay, situated in 21° 16′ N. and 75° 29′ E., 3 miles north-west of Adāvad under the Sātpurā Hills. It is remarkable for a hot spring, whose waters, issuing from a seemingly solid block of masonry forming the lower part of a Hindu temple, flow through a stone conduit fashioned like a cow's head, and are collected in a pond 25 feet square surrounded by a strong red-brick wall. Within the enclosure, close to the edge of the pond, is a resthouse and two small Hindu shrines, and outside the enclosure the water is collected in a cattle trough.

Unao District (*Unnao*).—District in the Lucknow Division of the United Provinces, lying north-east of the Ganges, between 26° 8′ and 27° 2′ N. and 80° 4′ and 81° 3′ E., with an area of 1,792 square miles. It is bounded on the north by Hardoī; on the north-east by Lucknow and Rāe Barelī; on the south-east by Rāe Barelī; and on the south-west the Ganges divides it from Cawnpore and Fatehpur. The greater part of Unao forms a gently undulating upland, in which ridges of high and rather sandy land alternate with depressions of stiffer soil. The deeper depressions contain more or less permanent lakes, while in the shallower hollows swamps form during the rains. Large stretches of barren *ūsar* land are a conspicuous feature, sometimes extending for several miles. The valley of the Ganges is lower. It is widest in the north, where it extends several miles from the bed of the river, and gradually diminishes towards the south, where the Ganges runs close to its high bank. This is the principal river and skirts the whole of the south-western border. The Sai enters Unao from the north, and flows roughly parallel to the Ganges along or near the north-east boundary. A small stream called the Kalyāni drains the upper part of the Ganges valley; and another stream, the Lonī, rises in the centre of the District and flows south-east to Rāe Barelī. *Jhīls* and marshes are most numerous in the centre and east.

Physical aspects.

No geological formations are found except the ordinary alluvium, which contains *kankar* or nodular limestone.

The flora is that of the Gangetic plain generally. Unao is fairly well

wooded; but this is due to the large number of groves, chiefly of mango and *mahuā* (*Bassia latifolia*). There are few jungles, and these contain only grass or a few *dhāk*-trees (*Butea frondosa*). *Babūl* (*Acacia arabica*) is the only product of the *ūsar* plains.

Wolves, jackals, and wild hog are common, while *nīlgai* and antelope are still found in some numbers, and in the extreme south there are a few herds of wild cattle. Wild-fowl abound in the cold season. Fish are plentiful in the rivers and in the larger *jhīls*, and are used for food.

Unao is generally healthy, and the temperature varies from about 75° to 103° in the hot season and from 46° to 79° in the cold season. The climate thus resembles that of the neighbouring Districts of Southern Oudh.

The annual rainfall averages 35 inches, evenly distributed throughout the whole District; but great variations occur over a series of years. In 1880 less than 12 inches was received, while in 1867 the fall amounted to nearly 76 inches.

History.

Tradition connects various places in the District with episodes in the Rāmāyana, and attempts have been made to identify sites visited by the Chinese pilgrims. Nothing, however, is known of the history of Unao till the Muhammadan invasion. Legend relates that Saiyid Sālār passed through the District, and the tombs of some of his followers are pointed out. The traditions of the people state that the Rājputs first entered Unao between A.D. 1200 and 1450, retreating before the Musalmān conquerors. They found the eastern portion occupied by Bhārs, and the rest by low castes, now represented by the Lodhas, Ahīrs, &c. The earliest regular Musalmān settlement dates from the end of the thirteenth or the beginning of the fourteenth century, when a saint named Alā-ud-dīn came from Kanauj and cursed the Rājā of Nawal, who refused to admit him into the town. Nawal was destroyed with its inhabitants, and the Saiyid founded Bāngarmau a short distance away. The shrine built over his grave bears date 1302. In the fifteenth century Ibrāhīm Shāh of Jaunpur sent a force, which took Safīpur in 1425; and a few years later some Saiyids treacherously seized the stronghold of the Bisen Rājās of Unao. At this time the eastern portion of the District was included in the tract known as BAISWĀRĀ. Under Akbar, Unao formed part of the *sarkār* of Lucknow, but materials are lacking for the history of the District under the Mughals. In the eighteenth century a Bais chieftain successfully resisted Saādat Khān, Nawāb of Oudh; and a hundred years later Sleeman described the country as in a perpetual state of disturbance, where life, property, and industry were alike insecure.

At the annexation in 1856 a District of Purwā was formed, the headquarters being at Unao town. A year later the Mutiny broke out, and before the end of June the Deputy-Commissioner was obliged to retire

to Lucknow. A few of the *tālukdārs* were conspicuously loyal, furnishing supplies and information to the British, while others adopted a position of open rebellion, and some remained neutral. There was, however, no organized movement against the British, owing to the lack of leaders. In July Havelock left Cawnpore and fought several engagements, advancing beyond Unao on the road to Lucknow. He was, however, unable to maintain his position and retired. In August an advance again took place; but it was not till September 19, after the arrival of Outram, that the real advance to relieve Lucknow was made. After the occupation of the Alambāgh, communications through Unao to Cawnpore were not interrupted, and the north of the District was cleared of rebels by February, 1858. The south and east gave more trouble, and Baiswārā remained unsettled till November. In 1869 the District was enlarged by the addition of *parganas* transferred from Lucknow and Rāe Barelī, and assumed its present form.

Copper arrow-heads have been found near Pariar on the Ganges opposite Bithūr. The District contains many ancient mounds dating possibly from Buddhist times; but they have not been excavated. Nawal has been identified with the A-lo mentioned by Fa Hian and with the Na-po-ti-ku-lo or Navadevakula visited by Hiuen Tsiang. The oldest Muhammadan buildings are at BĀNGARMAU.

Population.

The District contains 10 towns and 1,633 villages. At the four enumerations the numbers were: (1869) 945,955, (1881) 899,069, (1891) 953,636, and (1901) 976,639. The decrease between 1869 and 1881 was due to the famine of 1877-8. There are four *tahsīls*—UNAO, SAFĪPUR, PURWĀ, and MOHĀN—the first three named from their head-quarters, but the head-quarters of Mohān are now at Hasanganj. The principal town is the municipality of UNAO. The following table gives the chief statistics of population in 1901:—

Tahsīl.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Unao	400	1	286	204,850	512	+ 6.2	8,207
Safīpur	408	3	360	225,490	552	+ 7.3	4,661
Purwā	548	3	513	290,910	531	− 0.8	10,939
Mohān	436	3	474	255,389	586	− 0.8	5,806
District total	1,792	10	1,633	976,639	545	+ 2.4	29,613

Nearly 92 per cent. of the total are Hindus and 8 per cent. Musalmāns. Between 1891 and 1901 a decrease of population took place in the north-east and east, while the population in the north-west and centre increased. The density is high; but Unao is not so congested as the

eastern Districts of Oudh. It still supplies recruits for the Indian army and for the police, besides considerable numbers of labourers to the neighbouring cities of Cawnpore and Lucknow. More than 98 per cent. of the population speak the Awadhī dialect of Eastern Hindī.

Brāhmans, 121,000, are the most numerous Hindu caste; while other important castes are Chamārs (tanners and cultivators), 103,000; Ahīrs (graziers and cultivators), 93,000; Lodhas (cultivators), 90,000; Pāsīs (toddy-drawers and cultivators), 89,000; Rājputs, 74,000; and Kāchhīs (cultivators), 32,000. Among Muhammadans are Shaikhs, 17,000; Pathāns, 14,000; and Behnās (cotton-carders), 9,000. More than 73 per cent. of the population are supported by agriculture. Rājputs hold 45 per cent. of the total area and Brāhmans 19 per cent. Brāhmans are cultivators of about 16 per cent. and Rājputs of 10 per cent. of the tenant land, while the skilful cultivating castes—the Kāchhīs, Kurmīs, and Lodhas—occupy about 20 per cent. between them.

There were 106 native Christians in 1901, of whom 59 were Methodists. A branch of the American Church was opened in 1882, subordinate to the Presiding Elder of Hardoī.

Agriculture.

Unao is a District of average, but not exceptional, fertility, as compared with the rest of Oudh. The Ganges valley is of the usual type. In places there are stretches of barren sand, but most of it is fairly productive in ordinary years. The autumn crop is frequently flooded; but in dry years the spring crop is excellent, and requires little attention. North-east of this, beyond the old high bank of the river, the soil is usually a rich loam, producing excellent *jowār* and *arhar*; and this is the most prosperous tract. Farther inland the loam turns to clay, in which rice is the principal crop. The land again becomes sandy near the Sai, and *bājra* here takes the place of *jowār*; but the valley of that river is generally fertile.

The tenures on which the land is held are those common to OUDH. About one-fifth of the total area is included in *talukdāri* estates, of which a small proportion is sub-settled. The main agricultural statistics for 1903-4 are given below, in square miles:—

Tahsīl.	Total.	Cultivated.	Irrigated.	Cultivable waste.
Unao . . .	400	215	77	63
Safīpur . .	408	259	99	57
Purwā . .	548	286	128	92
Mohān . .	436	262	118	59
Total	1,792	1,022	422	271

Barley, wheat, and gram are the staple food-crops, covering 220, 218, and 153 square miles respectively; while *arhar* (132), *bājra* (122), rice (119), *jowār* (89), and maize (65) are also largely grown. Other crops

are poppy (14) and sugar-cane (11); cotton and oilseeds are also grown to a small extent.

Cultivation has increased by about 20 per cent. within the last forty years, and a considerable portion of this increase has taken place recently. The increase is largely due to the breaking up of inferior land for rice; but there has also been a rise in the area under maize, cotton, and poppy. While the area under the plough has risen, there has also been a great extension in the area double cropped, which now amounts to nearly a quarter of the cultivated area. Gram or peas are largely sown in lands which have produced rice, after that crop has been gathered. There is a small, but steady, demand for advances under the Land Improvement and Agriculturists' Loans Acts. During the ten years ending 1900, a total of 1·8 lakhs was advanced, of which 1·5 lakhs was lent in the famine year 1896–7. In the next four years the average amount lent was Rs. 3,000.

The cattle are of an inferior type, as usual throughout Southern Oudh. An attempt was once made to improve the breed; but the bulls imported were not of a suitable stamp, and the best plough-cattle are still bought at the well-known fairs in the Provinces or from dealers. The ponies are also of a poor class, and are chiefly used as pack-animals. Sheep of the ordinary breed are kept in considerable numbers, and the District supplies the Cawnpore market.

In 1903–4 the irrigated area was 422 square miles, of which 224 were supplied from wells, 168 from tanks, and 30 from other sources. The Ganges and Sai valleys require little irrigation; but temporary wells can be made when required in most parts of these tracts. In the uplands, the north-east and east depend chiefly on *jhīls* and swamps, while wells are the principal source elsewhere. The rivers are used only to a small extent in ordinary years, owing to the cost of raising water. Wells are usually worked by a bullock-run, but water is also raised from them by hand. In the lowlands the lever can be used. The water of *jhīls* and swamps is raised by the swing-basket. The canal made by the kings of Oudh, which was intended to link the Ganges and Gumtī, has never been used for irrigation and is usually dry.

Kankar or nodular limestone is found in all parts of the District, and is used for making lime and metalling roads. Saline efflorescences called *reh* are collected for manufacturing glass and other purposes.

Trade and communications.

The manufactures of the District are of even smaller importance than usual. Indigo, salt, and saltpetre were formerly made; but these industries have collapsed, and the chief manufacture is that of brass and copper utensils at Bhagwantnagar, Nawalganj, and Murādābād. Cotton cloth is made for local consumption at several places, and there is a little calico-printing.

Unao exports grain, sugar, and *ghī*, and imports piece-goods, salt, metals, and spices; but the trade is not considerable. It lies between the two large cities of Cawnpore and Lucknow, which provide markets for surplus produce and supply the small needs of an agricultural population. The traffic by road is still considerable, especially to Cawnpore. There are no large trading centres in the District, their place being taken by small markets at numerous villages and a few towns.

The branch of the Oudh and Rohilkhand Railway from Cawnpore to Lucknow passes across the centre of the District, and side by side with it runs the narrow-gauge line which links the Rājputāna-Mālwā and the Bengal and North-Western Railways. Communications by road are fairly good. Out of a total length of 507 miles, 110 miles are metalled. The Public Works department is in charge of most of the former; but the cost of all but 30 miles is met from Local funds. Avenues of trees are maintained on 222 miles. The road from Cawnpore to Lucknow is the principal route, and the other metalled roads branch off from this at various points.

Famine.

Records of the early famines in Unao are scanty. There was scarcity or famine in 1769, 1783, and 1838, and again after the commencement of British rule in 1861, 1865, and 1869. The drought of 1877 was severely felt, and in March, 1878, as many as 44,000 persons were employed on relief works during a single week. Distress continued till the next autumn harvest ripened. A succession of wet years culminating in 1894 had already depressed the condition of the people, when the scantiness of rain in 1895 and the still more complete failure in the following year caused widespread distress. Relief works were opened in December, 1896, and the numbers employed rose rapidly, till at the end of February 49,000 workers were being relieved daily. The spring harvest gave temporary relief, but works were not closed till the end of August. Collections of land revenue were suspended to the extent of 7·8 lakhs, and 2 lakhs was ultimately remitted.

Administration.

The Deputy-Commissioner is usually assisted by four Deputy-Collectors recruited in India, and a *tahsīldār* resides at the head-quarters of each *tahsīl*. An officer of the Opium department is stationed in the District.

The civil courts include those of a Sub-Judge and three Munsifs. Unao is within the jurisdiction of the Civil and Sessions Judge of Hardoī. The District is marked by the prevalence of homicide; but crimes against property of a serious type are comparatively rare. The Rājputs are chiefly responsible for breaches of the peace, while the Pāsīs supply most of the criminal population. Female infanticide was formerly very common, but is no longer suspected.

At annexation in 1856 a summary settlement was made, the records of which perished in the Mutiny. After the restoration of order a second summary settlement was carried out, based on the demand under the native government, which resulted in a net demand for land revenue amounting to 11·8 lakhs. The first regular settlement was made between 1862 and 1867, and was preceded by a survey. As was usual in Oudh, the Settlement officer had sole jurisdiction as a civil court to settle disputes regarding rights in land, which were numerous. The assessment was based on a comparison of the actual rents with the estimate made by applying selected rates to different classes of soil, and it resulted in a demand of 12·9 lakhs. A considerable area was permanently settled at reduced rates as a reward for loyalty during the Mutiny. The settlement was revised between 1889 and 1895 by successive Deputy-Commissioners, in addition to their regular work. The District was not resurveyed; but the maps were corrected and brought up to date, and the assessment was based on the recorded rents. This revision resulted in a demand of 15·5 lakhs, of which 1·1 lakhs is due from permanently settled estates. The assessment on the rest of the District amounted to 14·4 lakhs, which represented 48 per cent. of the rental 'assets.' The demand is at present 15·9 lakhs, and the incidence is Rs. 1·5 per acre, varying from R. 1 to Rs. 2 in different *parganas*.

Collections on account of land revenue and revenue from all sources have been, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	12,04	13,27	16,50	15,93
Total revenue . .	15,26	18,04	23,02	23,65

There is one municipality, UNAO, and seven towns are administered under Act XX of 1856. Local affairs beyond the limits of these are managed by the District board, which in 1903-4 had an income of one lakh, chiefly derived from rates. The expenditure in the same year amounted to 1·2 lakhs, including Rs. 58,000 spent on roads and buildings.

The District Superintendent of police has under him a force of 4 inspectors, 85 subordinate officers, and 306 constables distributed in 13 police stations, besides 87 municipal and town police, and 1,978 rural and road police. The District jail contained a daily average of 259 prisoners in 1903.

Unao is not distinguished for the literacy of its inhabitants, of whom only 3 per cent. (5·8 males and 0·1 females) could read and write in 1901. The number of public schools rose from 133 in 1880-1 to 142 in 1900-1, and the number of pupils from 5,172 to 6,263.

In 1903-4 there were 180 public schools with 8,018 pupils, of whom 52 were girls, besides 61 private schools with 639 pupils. Only 1,600 pupils in both classes of school had advanced beyond the primary stage. Government manages four of the schools and the District board 126. Out of a total expenditure on education of Rs. 41,000, Local funds contributed Rs. 36,000 and fees Rs. 6,300.

There are 7 hospitals and dispensaries, providing accommodation for 42 in-patients. In 1903 the number of cases treated was 27,000, including 439 in-patients, and 1,404 operations were performed. The expenditure in the same year amounted to Rs. 8,000, chiefly met from Local funds.

About 24,000 persons were successfully vaccinated in 1903-4, representing the low proportion of 25 per 1,000 of population. Vaccination is compulsory only in the municipality of Unao.

[W. H. Moreland, *Settlement Report* (1896); H. R. Nevill, *District Gazetteer* (1903).]

Unao Tahsīl (*Unnao*).—Head-quarters *tahsīl* of Unao District, United Provinces, comprising the *parganas* of Unao, Sikandarpur, Pariar, and Harhā, and lying between 26° 16′ and 26° 41′ N. and 80° 17′ and 80° 42′ E., north-east of the Ganges, with an area of 400 square miles. Population increased from 192,894 in 1891 to 204,850 in 1901. There are 286 villages, but only one town, UNAO (population, 13,109), the District and *tahsīl* head-quarters. The demand for land revenue in 1903-4 was Rs. 3,47,000, and for cesses Rs. 36,000. This is the least thickly populated *tahsīl* in the District, the density being 512 persons per square mile. It includes a large area of lowland in the Ganges valley, which is widest towards the north. The upland is level and chiefly composed of a light loam; but excellent rice is grown in the shallow depressions which abound. In 1903-4 the area under cultivation was 215 square miles, of which 77 were irrigated. Wells supply two-thirds of the irrigated area, and tanks most of the remainder.

Unao Town (*Unnao*).—Head-quarters of the District of the same name in the United Provinces, situated in 26° 33′ N. and 80° 30′ E., on the road from Cawnpore to Lucknow and on the Oudh and Rohilkhand broad- and narrow-gauge lines between the same places. Population (1901), 13,109. Tradition relates that it was founded by one Godo Singh in the eighth century, and some hundred years later passed under the Rājās of Kanauj, when an officer, named Unwant Singh, murdered the governor and built a fort, which he named after himself. About 1450 a descendant of Unwant Singh was treacherously murdered by Saiyids, whose descendants still hold part of the estate then seized. In the reign of Shāh Jahān a Shaikh, named Fateh-ullah, settled here, and some fine buildings erected by him still

remain. On July 29, 1857, a battle was fought between Havelock's forces and the mutineers, who were defeated with loss. Unao contains a branch of the American Methodist Mission, and besides the usual public offices has male and female dispensaries. It has been administered as a municipality since 1869. During the ten years ending 1901 the income and expenditure averaged Rs. 7,000. In 1903-4 the income was Rs. 12,000, chiefly from a house tax and a tax on professions and trades (Rs. 6,000); and the expenditure was Rs. 16,000. There is a thriving local trade, but no manufactures. Five schools are maintained with 300 boys, besides a girls' school with 6 pupils.

Unchahra (*Unchahera*).—Old town in Nāgod State, Central India, situated in 24° 23′ N. and 80° 48′ E., 20 miles south-east of Nāgod village, on the East Indian Railway. Population (1901), 3,785. The town is said to have been founded in 1489 on the site of a settlement belonging to the Teli Rājās, whose chief towns were Khoh and Naro. The district round Unchahra is called Barme or Varmai, a name which is said to be anterior to the Parihār invasion, though nothing is now known either of the origin of the name or of the former extent of the region. There are no ancient remains which can be assigned to a period before the ninth or tenth century. Up to 1720 this was the capital of Nāgod State.

[A. Cunningham, *Archaeological Survey Report*, vols. viii, ix, xxi.]

Und (*Hind, Ohind, Waihind*).—Village in the North-West Frontier Province, situated in 34° 2′ N. and 72° 27′ E., 15 miles above Attock, on the west bank of the Indus, just beyond the north-east corner of Peshāwar District. It marks the site of the ancient Indian Udakā or Uda-bhāndapura, the U-to-kia-han-ch'a of the Chinese pilgrim Hiuen Tsiang, once the capital of the Turki and Hindu Shāhi dynasties, which ruled the Kābul valley and Gandhāra immediately before the Muhammadan invasion. Hiuen Tsiang in the seventh century A.D. describes it as a rich city, 4 miles in circumference. The hard-won victory by which Mahmūd of Ghazni opened his way into the Punjab was fought before Waihind, the name by which the place was known to Albirūnī and the Muhammadan historians. It remained a place of some importance after this event, for Govinda-khāna, ruler of the Indus region and Gandhāra, was expelled from it by Shahāb-ud-dīn, king of Kashmīr, in the fourteenth century.

Undavalle.—Village in the Guntūr *tāluk* of Guntūr District, Madras, situated in 16° 30′ N. and 80° 35′ E. Population (1901), 1,123. It is chiefly famous for the numerous rock-cut shrines and *mantapams* which stand upon the hill beside it. The largest of these is a four-storeyed temple, with galleries and rudely sculptured figures, dedicated to Anantasayana, or Vishnu sleeping on the serpent, a colossal sculpture of whom is to be seen in the third storey. The caves are undoubtedly

of Brāhmanical origin, and perhaps belong to a date very soon after the downfall of Buddhism.

Underi (or Henery).—A small island in the Alībāg *tāluka* of Kolāba District, Bombay, situated in 18° 42′ N. and 72° 51′ E., near the entrance of Bombay harbour, due south of the Prongs lighthouse, 1,200 yards from the mainland and opposite the village of Thal. This, with the island of KHĀNDERI or Kenery, which is distant about a mile and a quarter to the south-west, forms one of the landmarks for vessels entering Bombay harbour. Underi is smaller and lower than Khānderi and is nearly circular. Except a small cove in the north-east side where boats lie, it is surrounded by rocks.

The earliest known mention of Underi is by Fryer in 1674, who calls it 'Hunarey' and misplaces it, putting it to the west of 'Cunarey.' The island was fortified by Sīdī Kāsim in 1680, and remained in his hands till the close of the seventeenth century. After working with the English for some time in blockading Khānderi, where Daulat Khān (Sivajī's admiral) had lately established himself, Sīdī Kāsim suddenly took possession of Underi in January, 1680, and began to fortify it. Two engagements followed between the Sīdī and the Marāthās. In the second fight Daulat Khān brought guns to bear from the mainland on Underi. After about a fortnight, Daulat Khān again came out with his whole fleet and engaged the Sīdī for four hours, but lost heavily. On August 1, 1680, Sambhājī, who had succeeded Sivajī (April, 1680), taking advantage of a dark night, landed two hundred men on Underi. They got within the works before they were discovered; but here the Sīdī attacked them and either took or killed the greater number. In 1761 Raghunāth Rao Peshwā granted Underi to the English; but the transfer never took place. The island was subsequently held on behalf of the Peshwās by the Angrias, who used the fort as a state prison. A hidden flight of steps led underground to a strong door, which gave entrance to a room 7 feet high and 12 feet wide, a loathsome dungeon swarming with vermin. About 1836, on suspicion of being concerned in a gang robbery, fifteen persons were confined in this hole. In four months, from want of light, air, and water, thirteen of the fifteen died raving mad. In 1840 Underi lapsed to the British Government; and, till 1858, when the survey settlement was introduced, it continued the head-quarters of a subdivision of 130 villages.

Unī.—*Thakurāt* in the MĀLWĀ AGENCY, Central India.

Uniāra.—Chief town of an estate of the same name in the Mālpura *nizāmat* of the State of Jaipur, Rājputāna, situated in 25° 55′ N. and 76° 4′ E., on the Galwa river, a tributary of the Banās, about 72 miles south of Jaipur city. The town is walled and fortified, and in 1901 contained 4,461 inhabitants. The Rao Rājā of Uniāra belongs

to the Narūka sept of the Kachwāha Rājputs, and pays to the Jaipur Darbār a tribute of about Rs. 37,600. He maintains a primary school attended by 36 boys, and a hospital with accommodation for 4 in-patients. There are also three elementary indigenous schools. The estate contains one town and 122 villages, with a population in 1901 of 27,913, of whom 90 per cent. were Hindus. It is situated in one of the richest portions of the Jaipur State, and yields to the Rao Rājā about 3 lakhs a year.

United Provinces of Agra and Oudh.—The area administered by the Lieutenant-Governor of Agra and Oudh lies between 23° 52′ and 31° 18′ N. and 77° 3′ and 84° 39′ E. The Provinces are bounded on the north by Tibet, and on the north-east by Nepāl; on the east and south-east by the Champāran, Sāran, Shāhābād, and Palāmau Districts of Bengal; on the south by two of the Chotā Nāgpur States in the Central Provinces, Rewah and some small States in the Central India Agency, and Saugor District in the Central Provinces; on the west by the States of Gwalior, Dholpur, and Bharatpur, the Districts of Gurgaon, Delhi, Karnāl, and Ambāla in the Punjab, and the Punjab States of Sirmūr and Jubbal. The Jumna river forms part of the western boundary, the Ganges part of the southern, and the Gandak part of the eastern; other boundaries are artificial.

According to the District surveys the areas of the two Provinces are, in square miles: Agra, 83,198; Oudh, 23,966; total, 107,164. Including some river-beds which form District boundaries and are excluded from the District details, the total area amounts to 107,494 square miles. The area of the two Native States in the Provinces (Rāmpur and Tehrī) is 5,079 square miles more.

A Presidency of Agra was first formed in 1834, up to which date the area then separated had been included in the Presidency of Bengal, being sometimes called the Western Provinces. In 1836 its name was changed to the Lieutenant-Governorship of the North-Western Provinces. The Province of Oudh[1] was annexed in 1856, and became a Chief Commissionership with a separate administration. In 1877 the two Provinces were brought together under the Lieutenant-Governor of the North-Western Provinces and Chief Commissioner of Oudh, and in 1902 the name of the Provinces was changed and the title of Chief Commissioner dropped.

Physical aspects.

The United Provinces include four distinct tracts of country: namely, portions of the Himalāyas, the sub-Himālayan tracts, the great Gangetic plain, and portions of the hill systems of Central India.

The Himālayan tract, which lies on the exteme north, comprises

[1] Awadh is a corruption of Ajodhyā, and was the name of a province before British rule.

the Districts of Garhwāl, Almorā, Dehra Dūn, and Nainī Tāl (in part), with the Native State of Tehrī, its area being nearly 19,000 square miles. The outer ranges of hills rise quickly from the submontane tracts to a height of 7,000 or 8,000 feet, and on these are situated the hill stations of Nainī Tāl and Mussoorie, and several small cantonments. A little farther in the interior is a second range, after passing which the elevation increases till heights of 10,000 and 11,000 feet are attained. Beyond, but still south of the great central axis of the Himālayas, tower the huge peaks of Trisūl or the 'trident' mountain (23,382 feet); Nandā Devī (25,661 feet), the highest mountain in British dominions; and Nandā Kot (22,538 feet). On the west Dehra Dūn District lies partly between the Himālayas and the Siwāliks for 45 miles, extending up the slopes of both ranges. These mountainous regions, which nowhere assume the comparative level of a plateau, include some of the wildest and most magnificent country in the whole range of the Himālayas, and among their snow-clad peaks the sacred streams of the Ganges and Jumna take their rise. Many famous temples and places of pilgrimages line the upper course of the Ganges, and thousands of pious Hindus from all parts of India annually visit the holy source.

The submontane tract between the Ganges and the Sārdā river has three distinct portions. Immediately below the hills lies a strip of land, 20 miles wide in the west and gradually becoming narrower in the east, called the Bhābar[1], into which the torrents rushing down from the steep slopes sink and are lost, except during the rainy season, beneath a mass of boulders and gravel. Wells are almost unknown, and cultivation is carried on by means of small canals. A large portion of the Bhābar is covered with forests, the home of tigers and wild elephants, while other game abounds. Below the Bhābar is a wider strip of land called the *tarai*, a damp and marshy tract, covered for the most part with thick jungle and tall grass. In both the *tarai* and the Bhābar the population is largely migratory, cultivators coming in from the adjacent Districts in the plains to the *tarai*, and from the hills to the Bhābar, and departing after cutting their crops. Only the Thārus and allied tribes, who seem fever-proof, can stand the pestilential climate of the *tarai* throughout the year.

Other Districts in the plains partake of the nature of the *tarai*, especially in their northern portions. The rainfall is heavy and streams are numerous, while the spring-level is high. Sahāranpur lies below the Siwāliks; while Bijnor, the Rāmpur State, Bareilly, and Pīlībhīt border on the *tarai*, and Kherī, Bahraich, Gondā, Bastī, and Gorakhpur run up to the Nepāl frontier. The whole of this tract is a sloping

[1] The word means 'porous.'

plain, lying practically free from the Himālayan system, though low hills are found to the north of Bahraich and Gondā. The area of these submontane Districts is about 24,000 square miles.

Rather more than half the total area of the Provinces (53,776 square miles) is included in the great Indo-Gangetic plain. The western portion comprises thirteen Districts: Muzaffarnagar, Meerut, Bulandshahr, Alīgarh, Muttra, Agra, Farrukhābād, Mainpurī, Etāwah, Etah, Budaun, Morādābād, and Shāhjahānpur. Most of these are situated entirely in the Doāb, or space between the two rivers Ganges and Jumna; but Muttra, Agra, and Etāwah also extend to the south and west of the Jumna, and the last three lie north and east of the Ganges. With the exception of Muttra and Agra, these Districts form a gently sloping plain of alluvial soil, in which neither rock nor stone approaches the surface, though beds of *kankar* (nodular limestone) are found. In the west of Muttra and Agra low stone ridges and hillocks form a feature of the landscape. This portion of the Provinces is by far the most prosperous. Ten of the thirteen Districts are protected by canals, and the standard of comfort is distinctly higher than elsewhere. In the centre of the great plain lie the Districts of Cawnpore, Fatehpur, and Allahābād, with nine of the Oudh Districts: namely, Lucknow, Unao, Rāe Bareli, Sītāpur, Hardoī, Fyzābād, Sultānpur, Partābgarh, and Bāra Bankī. The Oudh Districts all lie between the Ganges and the Gogra, while Cawnpore, Fatehpur, and part of Allahābād are in the Doāb. Allahābād also extends north of the Ganges and south of the Jumna. There are no canals in Oudh, but parts of the other three Districts are irrigated by these works. The tract is generally fertile, and closely cultivated. The eastern portion of the great plain includes Balliā, Jaunpur, Azamgarh, Benares, and Ghāzīpur, all lying between the Gogra and the Ganges, the last two Districts extending also south of the Ganges. The rainfall is heavier than in the central and western portions, and the population denser.

On the south-west and south lie two small tracts belonging to natural divisions of India which differ considerably from the main portions of the Provinces. The four Districts of Jālaun, Bāndā, Hamīrpur, and Jhānsi, with a total area of 10,400 square miles, form part of the Central Indian plateau, and are generally known as British Bundelkhand. They are situated on and below the eastern slopes of the great plateau, with a gradual fall from south-west to north-east. The tract is broken up, especially in the south, by low rocky hills, spurs of the Vindhya mountains, covered with stunted trees and jungle. The soil is largely rocky and infertile, with considerable patches of the richer type known as 'black soil,' which differs entirely from the alluvium of the great plain. The spring-level is low, and there is little canal-irrigation. The tract is peculiarly liable to suffer from either

an excess or a deficiency of rainfall, and as a whole ranks as the poorest and most backward portion of the Provinces.

Mirzāpur, the largest District in the plains, extends from north of the Ganges to the East Sātpurās. Of a total area of 5,200 square miles, 600 belong to the great plain; 1,700 to 1,800 form the central table-land which stretches from the summit of the Vindhyan scarp 30 miles or more to the Kaimur range and the valley of the Son; and the remainder includes the wilderness of hill and valley, jungle and forest, ravine and crag, with here and there hill-encircled alluvial basins, which makes up South Mirzāpur.

The most important mountains situated in the Provinces are the Himālayas, which have been already referred to. Running parallel to the outer ranges, at an average distance of 15 miles, is the chain of hills known as the Siwāliks, which forms the south-western boundary of Dehra Dūn District, and has a total length in these Provinces from the Ganges to the Jumna of about 40 miles. East of the Ganges a similar elevation can be traced in part of the Provinces, but its height is insignificant. The northern slope, which reaches 3,500 feet at the highest, leads gently down into the valley or Dūn which separates these hills from the Himālayas, but on the south a steep and bold escarpment falls abruptly towards Sahāranpur. The principal pass is that called Mohan, over which the main road runs from Sahāranpur to Dehra Dūn; but its importance has been much diminished since the opening of the Hardwār-Dehra Railway in 1900. The outlying spurs of the Arāvallis in Agra and Muttra are mere hillocks, though in the latter District great religious sanctity attaches to them. The three ranges of the Vindhyan system in Bundelkhand are known as the Bindhāchal, the Pannā, and the Bandair hills; but the highest point is only 1,300 feet, in Bāndā District. The East Sātpurās in Mirzāpur are geologically distinct from the Vindhyas, and form a more rugged mass, with less frequent intervals of level ground.

The drainage of the whole area ultimately falls into the GANGES, which divides the Provinces into two parts, that on the east and north being roughly double the portion lying on the west and south. The western side consists of two tracts, the DOĀB, between the Ganges and the Jumna, and the tract south-west of the Jumna. In the northern Doāb much of the drainage of the Siwāliks and the plain below passes through the HINDAN into the Jumna. Lower down the more considerable streams join the Ganges. The JUMNA, however, receives on its right bank the large river CHAMBAL, draining part of Central India and Rājputāna, and the drainage from the northern slope of the Vindhyas through Bundelkhand. East of the Ganges there are three main systems, the RĀMGANGĀ, GUMTĪ, and GOGRA, the first and last of which rise in the Himālayas, while the Gumtī

starts in the Tarai between them. The characteristic feature of each of these three rivers is that the greater part of the water carried off by them is received on the left or northern banks. The GREAT GANDAK just touches the eastern boundary of the Provinces, but is not an important part of the river system.

The GANGES rises in the Tehrī State, under the name of Bhāgīrathi, and its junction with the Gogra is the most easterly point in the Provinces. It is a considerable river even at Hardwār, where the UPPER GANGES CANAL starts, and it is tapped again at Naraura for the LOWER GANGES CANAL. It is the source of the water-supply of the large cities of Meerut (by a canal), Cawnpore, and Benares. Its chief tributaries are the Rāmgangā (Farrukhābād), Jumna and Southern Tons (Allahābād), Gumtī (Ghāzīpur), Chhotī Sarjū or Eastern Tons and Gogra (Balliā), besides many smaller affluents. The principal towns on and near its banks are Srīnagar (on the Alaknandā affluent), Hardwār, Garhmuktesar, Anūpshahr, Soron, Farrukhābād, Kanauj, Bithūr, Cawnpore, Dalmau, Mānikpur, Karā, Allahābād, Sirsā, Mirzāpur, Chunār, Benares, Ghāzīpur, and Balliā. Before the construction of roads the Ganges was the chief route for goods and passengers between Bengal and Upper India, and for more than thirty years after the completion of the grand trunk road it continued to be the principal through-trade route. The opening of railways has altered this; but timber and bamboos are still floated down the upper part of the course, and stone, grain, and sugar are exported to Bengal. Rice is largely imported from Bengal by river, and other grain, manufactured goods, and metals are brought in the same way.

The JUMNA likewise rises in Tehrī, west of the lofty mountain Bandarpūnch, in 30° 1′ N. and 78° 27′ E. At its junction with the Northern Tons it emerges from the Himālayas into the Dūn, and piercing the Siwāliks enters the western plain at Faizābād, near which place it is tapped by the EASTERN and WESTERN JUMNA CANALS. It forms the western boundary between these Provinces and the Punjab as far as Muttra District, giving off a third canal 10 miles below Delhi at Okhla. After traversing Muttra, Agra, and Etāwah Districts, it forms the boundary between the three northern Districts of the Allahābād Division (Cawnpore, Fatehpur, and Allahābād) and the Jālaun, Hamīrpur, and Bāndā Districts of Bundelkhand. It then flows across Allahābād District to its junction with the Ganges, 860 miles from its source. The principal tributaries are the Northern Tons (Dehra Dūn), Hindan (Bulandshahr), Chambal (Etāwah), Betwā (Hamīrpur), and Ken (Bāndā). On or near its banks are the towns of Bāghpat, Brindāban, Muttra, Mahāban, Agra, Fīrozābād, Batesar, Etāwah, Kālpī, Hamīrpur, and Allahābād. The Jumna carries a smaller volume of water than the Ganges, though its course to the point of

junction is longer, and differs from it in character, being usually confined within high, well-defined banks, while the Ganges rolls from side to side of a wide bed often five or six miles in breadth during floods. Its water is the source of supply for the towns of Agra and Allahābād, and has been found to possess, when fresh, special virtue in destroying the enteric microbe.

The GOGRA, or Ghāgrā, the great river of Oudh, vies with the Ganges in volume, while it surpasses it in velocity. Its main constituent is the Kauriāla, which rises in the upper ranges of the Himālayas, and after passing through Nepāl sweeps down on the plains in a series of rapids over immense boulders. Almost immediately after it debouches on the *tarai* the stream splits in two, the western branch retaining the name of Kauriāla, though the eastern, known as the Girwā, has a larger volume of water. The two branches reunite shortly after entering British territory in Bahraich District, and form the boundary between Bahraich and Kherī. At Bahrāmghāt the stream, which has been joined by other tributaries, assumes the name of Gogra (though this is sometimes applied at Mallānpur higher up); and from here it divides Gondā, Bastī, and Gorakhpur from Bāra Bankī, Fyzābād, Azamgarh, and Balliā, and then forms the boundary between these Provinces and Bengal as far as its junction with the Ganges. Its principal tributary is the large river, also coming from the higher Himālayas, which is known in its earlier course as the Kālī and Sārdā, and emerges from the hills at Barmdeo in Almorā. The point of junction has varied considerably within the last hundred years; but the channel which now brings down the main stream is the Dahāwar, which joins the Kauriāla at Mallānpur. The main stream of the Sarjū joins the Gogra in Bahraich District, and the Muchaura and Rāptī in Gorakhpur. Fyzābād and Ajodhyā are the two largest towns on its banks; Tāndā and Barhaj are also situated on or near it.

The GUMTĪ rises in Pīlībhīt, and its valley is scooped out almost in the middle of the plain between the Ganges and the Gogra. After flowing south-east through Shāhjahānpur and Kherī Districts, where it becomes navigable, it forms the boundary between Sītāpur and Hardoī. Entering Lucknow District, it passes the city. Its winding course passes through the Districts of Bāra Bankī, Sultānpur, and Jaunpur, and then it joins the Ganges on the borders of Benares and Ghāzīpur. The Sai, its largest tributary, joins it in Jaunpur District; the Kalyāni, Kathnā, and Sarāyān are smaller affluents. The traffic on the Gumtī has been reduced since the opening of the Oudh and Rohilkhand Railway; but grain, fuel, and thatching grass are still carried. From time to time disastrous floods are caused by heavy rain when the river is full.

The RĀMGANGĀ rises in the Outer Himālayas and enters the plains

in Bijnor District, whence it crosses Morādābād, the Rāmpur State, Bareilly, Shāhjahānpur, Farrukhābād, and Hardoī, reaching the Ganges, nearly opposite Kanauj, after a total course of about 370 miles. Morādābād is the principal town on its banks; but its bed changes frequently throughout its whole course in the plains, and for some years, up to 1871, it flowed close to Bareilly.

The greater part of the Provinces consists of a level plain, the monotony of which is broken only by the numerous village sites and groves of dark-olive mango-trees which meet the eye in every direction. The great plain is, however, highly cultivated, and the fields are never bare except during the hot months, after the spring harvest has been gathered, and before the rainy season has sufficiently advanced for the autumn crops to have appeared above the ground. The country-side then puts on its most desolate appearance; even the grass withers, and hardly a green thing is visible except a few patches of garden crops near village sites, and the carefully watered fields of sugar-cane. At this time the *dhāk*-trees (*Butea frondosa*) burst forth with brilliant scarlet flowers—a striking contrast to their dusty surroundings. With the breaking of the monsoon in the middle or end of June the scene changes as if by magic: the turf is renewed, and tall grasses begin to shoot in the small patches of jungle. Even the salt *ūsar* plains put on a green mantle, which lasts for a very short time after the close of the rains. A month later the autumn crops—rice, the millets, and maize—have begun to clothe the naked fields. These continue in the ground till late in the year, and are succeeded by the spring crops—wheat, barley, and gram. In March they ripen and the great plain is then a rolling sea of golden corn, in which appear islands of trees and villages, but no hedges. North of the Provinces the Himālayas rise with their outer face and flanks clothed in dense forest. The inner ranges form a tangled mass of ridges towering higher and higher till the lofty snowy peaks are seen. In the south and south-west the level of the plain is broken by the low but precipitous scarp of the Vindhyas, and the isolated hills which stand out beyond.

In the Outer Himālayas are found several mountain lakes, known as Nainī, Bhīm, Naukuchhiyā, Malwā, and Sāt, with the affix *tāl* or 'lake.' They are more remarkable for their beautiful scenery than for their size. The first four vary from 110 to 120 acres in area, while the last is a series of seven basins (*sāt* = 'seven'), two of which are now dry. In September, 1893, a landslip took place at GOHNĀ in the interior of Garhwāl District, when the side of a mountain 9,000 feet above the sea fell into the Birahī Gangā, the bed of which is 4,000 feet below the summit of the mountain. A dam was formed 900 feet high, 2,000 feet across the top, and 11,000 feet long. The dam burst in August, 1894, and the level fell by about 390 feet, leaving a permanent lake 3,900

yards long with an average breadth of 400 yards and a depth near the dam of 300 feet.

In the Doāb, in Oudh, and still more in the Gorakhpur and Benares Divisions, *jhīls* or marshy lakes abound, most of which shrink to small dimensions in the hot season. Thus the Surahā Tāl in Balliā covers an area of 8,500 acres when full, but dwindles to 2,800 acres in the hot season. The Bakhira Tāl in Bastī, 5 miles long and 2 broad, is seldom more than 4 or 5 feet deep. Another large swamp is at Sāndī in Hardoī, while the Behtī lake in Partābgarh has been drained and its site is now cultivated land. In Bundelkhand and Mirzāpur there are artificial reservoirs of water, formed by embanking the mouths of valleys, most of them monuments of a former time. The principal lakes in Bundelkhand are in charge of the Irrigation department.

The Provinces may be divided geologically into a succession of zones lying north-west to south-east. North-east of the central axis of snowy peaks, and stretching up to and into Tibet, is a vast sequence of sedimentary strata lying in a great elevated basin. The series begins with unfossiliferous slates, quartzites, and occasional conglomerates of very ancient aspect, called Haimantas, which are at the base of everything, and are probably identical with the slate series found south of the great axis. These pass up into, and are overlaid by, thin-bedded dark-grey coral limestones, followed by flesh-coloured quartzite, and more coral limestone, shales, grey and crinoid limestones, which are probably of Silurian age, and capped by a massive white quartzite. The total thickness is about 2,300 feet. Above this Pre-Permian group is a layer of black crumbling shales of Upper Permian age, and there is thus a physical and palaeontological break here between the Upper Silurian and Upper Permian. After about 130 feet, these black shales pass into the Trias, which is the most characteristic series of this part of the world. It averages 2,000 feet in thickness, consisting of dark shales and limestone beds, with a quartzite stage near the top. The series is prolific in characteristic fossil zones. About 2,000 feet of massive well-bedded limestone, mostly unfossiliferous, follow above the Trias, the so-called Dachsteinkalk in part, which represents the Lower and Middle Jurassic. Above that, again, come the characteristic dark Spiti shales, over 1,000 feet thick, with concretionary bands, containing a fine Upper Jurassic fauna, not yet described in detail. These pass in this part into great thicknesses of dark Giumal sandstone of presumably neocomian age (Lower Cretaceous). The regular sequence is now broken, along the watershed, by a great horizontal thrust plane, bringing in exotic masses of older limestones and shales set in basic volcanic rock. They chiefly build up the lofty jagged summits from

[1] Condensed from notes by C. S. Middlemiss and E. Vredenburg, Geological Survey of India.

Bālchadhurā (18,110 feet) and Ghatamenin (18,700) to Kungribingri (19,170), and lie upon Giumal sandstone or Spiti shales. Although they show magnificent suites of marine fossils, ranging from Permian or Permo-Carboniferous to Upper Jurassic, the form of the rock, and the fossils it contains, differ from the same section lower down; and these masses have probably come from the north.

The snowy range containing all the loftier peaks is built up of immense sills of massive gneissic rock, much of which is probably very ancient. With the gneissose granite is associated a large quantity of thin-bedded micaceous, garnetiferous, and other crystalline schists.

The large area from the snowy range to the outer edge of the Himālayas has not been fully examined. The most general feature is the gradual passage from the flatly dipping foliated schists with sills of gneissose granite to steeply dipping slates, slaty shales, and quartzite, with occasional thin bands of dark limestone and here and there volcanic breccia. All are unfossiliferous, and must be presumed to be at least as old as Pre-Cambrian. Here and there laccolites and sills of gneissose granite reappear, with much the same composition as, but isolated from, the central chain. Massive limestone and dolomite formations are found at many places, especially along the southern edge. They are of varying but considerable thickness, always unfossiliferous, always in narrow bands among the slates. The Lower Himālayas are remarkable for their steep-sided ravines and frequent convex slopes, due to constant undermining by swollen rivers. Landslips are, as a consequence, not uncommon. In some cases, these calcareous formations are overlaid by an imperfectly fossiliferous series of dark sandy limestone, probably of mesozoic age. These in turn frequently underlie thin dark shales and calcareous shales. It is generally in rocks of these younger sub-zones that the ores of copper, lead, and iron in Kumaun are worked, but with only a small measure of success.

The sub-Himālayan zone of younger Tertiary strata is well defined and sharply separated from the Outer Himālayas by a continuous reversed fault, and is 6 to 14 miles in width, except near the Dehra Dūn, where it is wider. The whole of these Tertiary strata are fresh-water deposits, and are of immense thickness, comprising three stages: the Upper Siwālik conglomerates, sands and clays; the Middle Siwālik sand rock; and Lower Siwālik Nāhan sandstone. The system is celebrated for having yielded the magnificent Siwālik fauna (chiefly mammalian). Most of these fossil remains have been gathered from the middle and upper rock stages. They comprise thirty-nine genera and seventy-one species of mammalia which exist at the present day, and twenty-five genera and thirty-seven species now extinct. Gypsum is found in the Nihāl Nadī, below Nainī Tāl; gold is washed in very small quantities in the Sonā Nadī; and iron was formerly worked from

clays in the Nāhan sandstones, near Dechaurī and Kālādhungī in Nainī Tāl District.

The Gangetic alluvium is still being carried down from the Himālayas and deposited by the Ganges and its affluents. It is 90 to 300 miles in width and extends to unknown depths near the foot of the hills, where its floor is probably still sinking. On the south it overlaps the ancient rocks of Peninsular India, and is much thinner. A well-boring was made at Lucknow from a surface 370 feet above sea-level to a depth of 1,336 feet without reaching the bottom of the Ganges basin. At Agra solid rock was met at 481 feet from a surface-level of 553 feet above the sea. The Bhābar gravel or torrent-boulder zone reaches a height of about 1,000 feet. Below the Bhābar comes the great alluvial plain of clays and sands, broken only by the wide river valleys, which are from 50 to 200 feet lower in level, and have the distinctive names of *khādar*, *katrī*, *kachhār* or *deāra*, as opposed to *bāngar*. In the drier parts of the great plain the fertility of the soil is impaired by a surface efflorescence called *reh*. This consists of carbonate and sulphate of soda, often mixed with common salt. Land covered with these salts, or barren from any other cause, is called *ūsar*, and includes about 2,000,000 acres.

In the south-west of the Provinces the Vindhyan rocks emerge from the alluvium in Mirzāpur, Allahābād, Bāndā, Hamīrpur, and Jhānsi Districts. The system is primarily distinguished by its series of three massive scarps of sandstone, each representing a different subdivision; but only two of these are found in the United Provinces. The northernmost or Kaimur sandstone, which forms the Bindhāchal range, is deeply scored by river valleys. The celebrated forts of Chunār and Kālinjar stand on detached masses of this range. Farther south the Lower and Upper Rewah sandstones occur in the Pannā range. Both of these formations are found throughout the southern portion of the Districts named above. In Mirzāpur the jungle series of red shale, Bijāwar slates, quartzites, and haematitic jaspers and Archaean gneiss lie below them, and the Gondwāna shales, sandstones, and boulder-beds above them. Coal is found in the latter, and was formerly worked. In Jhānsi and Hamīrpur the gneiss is more prominent; but the Bijāwar series occupies a strip of land about 17 miles westward from the Dhasān river, containing rich haematitic ore in places, with a cupriferous vein in one locality. The outer fringe of the great spread of basalt constituting the Mālwā trap just reaches the south of the Lalitpur *tahsīl* in Jhānsi. In Agra District Vindhyan sandstones again appear, and farther north in Muttra are a few ridges of ancient quartzites.

[1] The flora of British India has been divided into five distinct

[1] Condensed from an account by J. F. Duthie, lately Superintendent, Botanical Survey of Northern India.

elements[1]. The oldest, called the Indo-African, extends from the Deccan to the Gangetic plain and to the drier parts of the Himālayas. Thus the flora of North Africa and Arabia is represented by *Peganum*, *Fagonia*, *Balanites*, *Acacia arabica*, *Alhagi*, *Grangea*, *Salvadora*, &c.; and that of tropical Africa by species of *Grewia*, *Sida*, *Corchorus*, *Triumfetta*, *Indigofera*, *Gloriosa*, and many others. The Eastern element, belonging to the peninsula from Singapore to Assam, is represented along the base of the Himālayas from Gorakhpur to the Jumna. The genera *Astragalus*, *Artemisia*, *Pedicularis*, and *Corydalis*, with many *Boragineae* and *Umbelliferae*, are characteristic of the Central Asian element, found chiefly at high elevations, but sometimes extending to lower levels on the western drier ranges. The European element appears to have entered at the western end of the Himalāyas, not long after the southward extension of the Central Asian element, and to have spread eastward in both hills and plains. The Quaternary element occupies the cultivated tracts and accompanies man.

Throughout the great plain vegetation is on the whole uniform, differences being chiefly due to variations in rainfall and temperature. In the west, where the rainfall is under 30 inches, vegetation becomes scanty, the trees and shrubs are mostly thorny, and plants characteristic of desert regions are found, such as *Alhagi*, *Capparis*, *Prosopis spicigera*, *Fagonia*, *Tecoma undulata*, *Salvadora persica*, *Salsola*, and species of *Grewia*, *Sida*, and *Acacia*. Some of these extend eastwards in sandy waste ground. Two well-marked features are observed in the annual herbaceous species. Those appearing in the cold season on waste ground, or as weeds in cultivation, are mostly of European origin and more abundant in the wheat-growing Districts of the north-west; while the annual herbage which springs up in the rains is composed mainly of species which have come from the east or from Central or Southern India. The sandy riverain tracts produce coarse grasses and deep-rooted perennials, with prickly shrubs and other desert plants. In the ravines the scanty vegetation consists mainly of stunted trees and shrubs and perennial plants, many of which belong to the African and Arabian type. In *ūsar* the land produces no vegetation where *reh* is very abundant, but elsewhere *Sporobolus arabicus* or *pallidus* and *Chloris virgata* are found, which will not thrive except on saline soil. The natural orders most represented in the Upper Gangetic plain are: *Leguminosae*, *Gramineae*, *Compositae*, and *Cyperaceae*. Only two palms are found wild: namely, *Phoenix sylvestris* and *P. acaulis*.

The tropical zone extends up to about 5,000 feet above the sea, and is eminently a forest[2] tract forming part of the great belt which includes the Bhābar. In the west, the vegetation of the Dūn valley between the

[1] C. B. Clarke in *Journ. Linn. Soc.*, vol. xxxv (1898).

[2] For details see section on Forests.

Siwāliks and Himālayas is particularly luxuriant. Orchids are plentiful along the base of the Himālayas, and about sixty-two species representing twenty-five genera have been identified. The aspect of the vegetation changes as the slopes rise; and at 4,000 feet *Engelhardtia*, *Rhus*, *Pistacia*, *Cornus*, *Rosa*, *Clematis*, *Bauhinia retusa*, and *Albizzia mollis* (pink *siris*) are met with, followed by the *banj* oak-tree, rhododendron, and *Pieris ovalifolia*. The forests are more scattered on the southern slopes, while the northern declivities are covered with dense growths. The temperate zone reaches to about 12,000 feet, which is the average limit of forests; and here European genera increase, such as *Clematis*, *Berberis*, *Ilex*, *Rhamnus*, *Vitis*, *Acer*, *Rubus*, *Rosa*, *Cotoneaster*, *Viburnum*, *Lonicera*, *Rhododendron* (*arboreum* and *campanulatum*), *Quercus* (*incana*, *dilatata*, *lanuginosa*, *annulata*, and *semecarpifolia*), *Pinus* (*longifolia* and *excelsa*), and *Arundinaria* (ringals). The epiphytic ferns (*Davallia*, *Polypodium*, &c.) drape the trees during the rains, turning brown and shrivelling when the monsoon ceases. At about 12,000 feet the high-level forests begin to thin off into thickets of birch and willow, mixed with dwarf rhododendron and other shrubby plants, until the open pasture land is reached, which is richly bedizened in the summer months with brilliantly coloured alpine species. *Ranunculaceae*, *Cruciferae*, *Leguminosae*, *Rosaceae*, *Saxifragaceae*, *Crassulaceae*, *Umbelliferae*, *Caprifoliaceae*, *Compositae*, *Campanulaceae*, *Primulaceae*, *Gentianaceae*, *Scrophularineae*, *Labiatae*, *Polygonaceae*, *Salicineae*, and *Gramineae* are the natural orders most largely represented. *Saxifraga*, *Sedum*, and *Saussurea* have been found up to 17,000 feet.

In the hilly portions of Mirzāpur many Central and Southern Indian species reach their northern limits, such as *Hardwickia binata* and *Soymida febrifuga*. The flora of Bundelkhand is similar in many respects to that of South Mirzāpur, but the drier climate encourages the growth of desert plants. *Ailantus excelsa*, *Anogeissus pendula*, and the teak-tree do not grow wild north of Bundelkhand.

Elephants are found wild in the Siwāliks and the Bhābar, and every few years they are noosed by men riding tame elephants. Tigers are fairly common in the forests of the Siwāliks, the sub-Himālayan tracts, and Mirzāpur District, and are also found in the south of Allahābād, Bāndā, and Jhānsi. Leopards are still more widely distributed, and the snow leopard occurs in the Himālayas. Within the last few years a rhinoceros has been shot in Gorakhpur District, and wild buffaloes are sometimes met with there. Wolves, jackals, and hyenas are common nearly everywhere, and the first named are not infrequently the cause of death to human beings. In the Siwāliks, Almora District, parts of Northern Oudh, Mirzāpur, Bāndā, and the Lalitpur subdivision of Jhānsi wild dogs (*Cyon dukhunensis*) are occasionally met with. Antelope, *nīlgai* (*Boselaphus tragocamelus*), and wild hog abound in many

parts of the open plains. *Sāmbar* (*Cervus unicolor*), *kākar* or barking-deer (*Cervulus muntjac*), the four-horned antelope (*Tetracerus quadricornis*), and *chītal* or spotted deer (*Cervus axis*) are to be found in the forests; while the swamp deer, or *gond* (*Cervus duvauceli*), and *pārha*, or hog deer (*Cervus porcinus*), live near swamps, and the *chinkāra* (*Gazella bennetti*) haunts the jungly ravines on the banks of the larger rivers. Musk deer (*Moschus moschiferus*), *thār* (*Hemitragus jemlaicus*), *gural* (*Cemas goral*), and other species of wild goats, sheep, and goat-like antelopes are found in the Himālayas. In the hills of Kumaun and in Mirzāpur and Bundelkhand black bears (*Ursus torquatus* in the Himālayas and *Melursus ursinus* elsewhere) are fairly common, while the Isabelline bear has been observed near the snows. Many species of ducks and geese visit the Provinces in the cold season and a few breed here. Snipe, quail, black and grey partridge, sand-grouse, bustard, plover, florican, and jungle-fowl are the commonest game-birds, while woodcock, *chikor*, and pheasants are found in the hills, and the sacred peacock in most parts of the plains. Snakes are common everywhere, and immense pythons are met with at the foot of the outer ranges of the Himālayas and in Bundelkhand. Cobras and *karaits* (*Bungarus caeruleus*) cause considerable loss of human life, and also kill cattle.

[1] The year may be divided into three distinct seasons. The cold season, commencing shortly after the withdrawal of the south-west monsoon, begins at the end of October and extends to the middle or end of March. It is characterized by bright clear weather, generally cloudless except for a few flecks of cirrus which accompany disturbances from Persia. At night frost on the ground is not infrequent during December, January, and February, but the days are pleasantly warm. Rain may fall at any time, owing to storms from Persia; but the total amount does not exceed two inches in the plains, and it usually falls about Christmas or early in the New Year. At the end of March the increasing heat causes a hot land-wind throughout the day, often coming from the west with considerable force, and accompanied by violent dust-storms. In June this wind ceases, as the south-west monsoon approaches, and the rains commence in the south of the Provinces between the middle and end of June. After the first burst the weather is broken, but rainless intervals are not uncommon. In September these dry periods become more frequent and last longer, and in October the monsoon currents cease. The climate in the hills resembles closely that of the low-lying parts of Switzerland. The winter is frosty, and snow generally falls as low as 5,000 feet, while it has been recorded at 2,500 feet. The summer is warm and relaxing, except at high altitudes. In the rains there is much cloud and fog.

The mean shade temperature in the plains varies slightly according

[1] From a note by E. G. Hill, D.Sc., Meteorological Reporter.

to the position of stations: thus Agra, which is near the Rājputāna desert, is very hot in the dry season, and is also warmer than more easterly stations during the monsoon, owing to its smaller rainfall. The difference is, however, only a few degrees. In the different seasons the temperature ranges from 60° or 61° in January to 93° or 94° in May. The average maximum and minimum temperatures of the representative places shown in Table I on page 258 may be ascertained by adding or subtracting half the daily range: thus the average temperature varies from a minimum of 47° or 48° in January to a maximum of 107° in May. The highest maximum recorded was 120° at Agra on June 18, 1878; but temperatures of 115° to 116° are reached at one place or another nearly every year.

The monsoon rain may come from either the Bengal or the Bombay current, and the heaviest rain is frequently caused by the meeting of the currents from both directions. The fall in the plains is heaviest in the east, where it amounts to over 50 inches, and least in the north-west, where it is only 27½ inches, the humid winds discharging their moisture as they pass across the country. As they reach the submontane Districts and outer hills, cooling causes a precipitation greater than in the plains. Thus the rainfall is, in the plains: at Benares, 40 inches; at Cawnpore, 31 inches; and at Agra, 27½ inches; in the submontane Districts, at Gorakhpur, 50 inches; at Bahraich, 41 inches; at Roorkee, 42 inches; and in the Outer Himālayas, at Nainī Tāl, 102 inches; at Mussoorie, 97 inches; and at Rānīkhet beyond the outer range, only 54 inches. There is a similar decrease in the Bombay current, which gives 60 inches at Jubbulpore, 49 inches at Saugor, and only 37 inches at Jhānsi. Variations in the rainfall are common. In 1883 Jhānsi received only 15 inches or 40 per cent. of the normal, and in 1896 Allahābād received 18·3 inches (46 per cent.), Agra 9·4 inches (34 per cent.), and Cawnpore 16·6 inches (52 per cent.). On the other hand, in 1894 there was a large excess all over the Provinces. Allahābād received 76·3 inches (nearly double the normal), Dehra Dūn 123·8 inches, and Mussoorie 157·3 inches. The heaviest fall recorded within twenty-four hours in the plains is 32·4 inches at Nagīna in Bijnor District on September 18, 1880. For agricultural purposes the distribution of the fall is most important, and a premature cessation before the end of August will cause more damage than a postponement of the first fall to the middle, or even the end, of July.

Destructive storms and cyclones are rare in these Provinces, and none of importance has been recorded. In March and April much damage to crops is often done in limited areas by hail. The worst floods occur in the valley of the Gumtī, which rose 37 feet at Jaunpur city in 1871 and 27 feet in 1894, destroying 4,000 houses in the earlier year and over 1,000 in the later, but not causing much loss of life.

Earthquake shocks are occasionally felt, but are not serious. Some damage is recorded to have been caused in 1506 and in 1764, and the earthquake of 1905 destroyed a number of houses in Mussoorie and Dehra.

History.

Stone implements have been found in large numbers in Mirzāpur, Bāndā, and Hamīrpur. A few have been dug up at ancient sites in Benares, Ghāzīpur, Bulandshahr, and Bastī. Those from Bāndā are chiefly hammer-stones of quartzite, basalt, sandstone or diorite, celts of basalt and diorite, and smaller implements made of chert. In Mirzāpur the principal classes are chert flake knives and arrow-heads. Cup-markings on boulders have been observed in Kumaun, and children still cut them in Bundelkhand. On the walls of caves in the southern scarp of the Kaimur Hills, and on rock faces in Bāndā, Allahābād, and Mirzāpur, rude drawings in red oxide of iron have been found, which depict hunting scenes and other subjects, the most interesting being a rhinoceros hunt. In a few places inscriptions of the same kind have been noticed, which apparently belong to a period early in the Christian era. At a few localities in the western Districts—Muttra, Bijnor, Cawnpore, and Unao—copper arrow- and spear-heads are occasionally turned up.

Histories in the European sense were rarely compiled in India before the Muhammadan conquest, and little has been done to extract satisfactory historical material from Sanskrit literature. The Vedic hymns, which were probably composed at least as early as 2000 B.C., show the Aryas still settled west of the Jumna. It has recently been suggested that their move forward commenced about 1000 B.C. The two great epics, the Mahābhārata and Rāmāyana, are of very doubtful historical value; but in these we find Aryan kingdoms established—in the former near Meerut, and in the latter at Ajodhyā. The Mahābhārata describes a contest between two related families, the Pāndavas and the Kauravas, who lived at Hastināpur, now popularly believed to have been in Meerut District. The Pāndava brothers were driven into exile for a time, and wandered in places which cannot be satisfactorily identified, but they married a daughter of the king of PANCHĀLA. Afterwards they ruled near Delhi, which they are said to have founded. Orthodox Hindus place the final struggle between these families a little before the year 3102 B.C., when the present epoch (Kali Yuga) began. European students have suggested the thirteenth or fourteenth century B.C., while an attempt has recently been made to fix the war about 1194 B.C. on astronomical data. The Rāmāyana tells the story of the exile of Rāma Chandra, son of the king of Ajodhyā, who was compelled to wander away into Central India with his wife Sītā and a brother. While they dwelt in the wilds, Sītā was abducted by Rāvana, the demon-king of Ceylon, but was

recovered with the help of Hanumān, lord of the monkeys. The path of the exiles is still traced by pilgrims, and the story is acted and recited every year, while Rāma and Sītā are to Hindus the perfect models of every virtue. These events are placed in an earlier epoch (Tretā Yuga) than the present; and native opinion therefore holds that the Rāmāyana was composed before the Mahābhārata, though European scholars would place it later on the evidence of style and subject. Linguistic researches have lately given rise to the opinion that the so-called Aryas came into these Provinces by different routes and at different times. Thus it seems probable that one wave passed along the foot of the Himālayas and spread southward only when it reached the east of the Provinces and Bihār, the ancient MAGADHA. Another wave passed across the Jumna and down the Doāb, the ancient MADHYA DESA or middle country.

The earliest events which can safely be called historical are connected with the life of Gautama Buddha. The Singhalese traditions place Gautama's death in 543 B.C., while European scholars have suggested various dates between 477 and 370 B.C. It is certain that he spent much of his life in the eastern Districts, and the remains of *stūpas*, monasteries, and other relics testify to the extent to which his doctrines were held in all parts of the Provinces as well as beyond their limits. A suggestion has recently been made that Buddhism was a regular development of religious thought among the people of Magadha, and not merely a revolt against the growth of Brāhmanism in Madhya Desa, as is commonly supposed. As a religious system it appears to have maintained its position till the fourth century A.D., when a revival of Hinduism took place under the Guptas. The accounts of the Chinese pilgrims in the fifth and seventh centuries A.D. show that Buddhism was then fast waning, and the latest memorial of it as a living faith is an inscription of the twelfth or thirteenth century found in Gondā District.

The first point of contact with Western history comes in the fourth century B.C., with Alexander's invasion and the subsequent relations of Seleucus Nicator with Sandrocottus, who is identified with Chandragupta Maurya of the Purānic annals. Chandragupta's kingdom, the first organized empire in India of which we have historic record, extended, after the withdrawal of Seleucus, from the Hindu Kush to the Bay of Bengal, with its capital at Patna. The grandson of Chandragupta was Asoka, the first great Buddhist emperor, whose pious edicts have been found on pillars and rocks in many parts of India. Three of his inscriptions are known in these Provinces, on pillars at ALLAHĀBĀD and BENARES, and on a rock at KĀLSĪ in Dehra Dūn. The last mentions by name the contemporary kings of Syria, Egypt, Macedonia, Cyrene, and Epirus, and thus fixes the date of Asoka's

coronation at 270 or 269 B.C. These inscriptions, and the fragments which have survived from the writings of Megasthenes, the ambassador of Seleucus at the court of Patna, show a highly developed system of government. Outlying provinces were under viceroys, and there were regular grades of officials subordinate to these. The army was carefully organized. Agricultural land yielded one-fourth of its produce, besides rent, to the crown. There were roads with pillars marking the distances, and the capital city was administered by a board of thirty members.

If the chronology of the Purānas is to be accepted, the Mauryan dynasty came to an end about 188 or 178 B.C., and was succeeded by the Sunga, but there is no independent confirmation of this. Numismatic evidence points to the conclusion that about this time parts of at least four kingdoms were included in the Provinces, corresponding to the ancient SŪRASENA (round Muttra), North PANCHĀLA (Rohilkhand), KOSALA (round Ajodhyā), and a tract south of Allahābād which may have been the kingdom of Kosāmbhī. From their coins the kings of Panchāla and Muttra appear to have been Hindus, while the symbols on the coins of Ajodhyā and Kosāmbhi are often Buddhist.

The Chinese chronicles describe the gradual rise in power of the Sakas or Scythians, who spread southward into India about the middle of the second century B.C.; and the coins of Muttra show that they penetrated as far as that place, for the native title of Rājā is replaced by Kshatrapa (Satrap), and names of clearly foreign origin are found. The onward movement of the Sakas had been to some extent involuntary, as they were retreating before the Yueh-chi, a horde divided into several tribes, the most important of which was called Kushan. Controversies still continue about the chronology of the period. Many dated inscriptions of the great Kushan kings—Kanishka, Huvishka, and Bās Deo—have been found at Muttra and elsewhere, but the era is in dispute. The latest theory places the reigns of these kings between A.D. 125 and 225.[1] Little is known of the Kushans. Kanishka is famous in Pāli literature as a liberal patron of Buddhism. The gold coinage of the period is clearly imitated from the Roman *aureus* first introduced by Augustus; and it bears the images of many deities, such as the Sun, Moon, Buddha (rarely), and others whose identity is not clearly established. It seems probable that the Kushans were soon Hinduized. The Greek inscriptions on the coins gradually become unrecognizable, and are replaced by Indian letters.

Early in the fourth century a great Hindu kingdom arose in MAGADHA or Bihār, which, like its Mauryan predecessor, spread far and wide. The third king, Chandra Gupta (I), founded a new era

[1] V. A. Smith in *J.R.A.S.*, 1903, pp. 1 et seq. An older theory, that the era began in 57 B.C., is maintained by Dr. Fleet (*J.R.A.S.*, 1906, p. 979).

commencing in A.D. 320; and his son, Samudra Gupta, carved out an empire from the Sutlej on the west to Central Bengal on the east, and from Oudh on the north to Central India on the south. Nine kings of Northern India, the rulers of Eastern Bengal, twelve kings of the Deccan, and the forest tribes of Central India and Rājputāna owed him allegiance. For 150 years the empire held together, and the period is remarkable for a revival in Hinduism. The language of the Gupta inscriptions is Sanskrit, instead of Prākrit, which was used previously, and the subject-matter, where religious topics are concerned, deals almost exclusively with Hindu ideas. It has been suggested that the revival of Sanskrit literature dates from this period. A description of Northern India between A.D. 400 and 413 is given by the Chinese pilgrim Fa Hian. In these Provinces the people were well off, without poll tax or much official restriction, though land tax was collected. Part of Southern Oudh was forest, and the country north of the Gogra largely deserted.

The Gupta empire appears to have been gradually falling to pieces by the end of the fifth century, decay being hastened by incursions of the Ephthalites or White Huns, another tribe of Central Asian invaders, who penetrated as far as Gwalior and Eran. Petty chiefs rose into power, and among these was a line of rulers calling themselves Maukharīs, who reigned throughout the latter part of the sixth century. The period was one of constant warfare between the Maukharīs, the Huns, the Guptas of the shrunken kingdom of Magadha, and the rulers of Mālwā. The Maukharīs were finally crushed by Silāditya of Mālwā; but in 606 he in turn fell before the armies of Thānesar, in the Punjab, whose ruler was connected by marriage with both the Maukharīs and the Guptas. Harshavardhana of Thānesar became king of Kanauj, and founded an era which was used in Northern India for some time. The splendour of his reign and extent of his power are described by Hiuen Tsiang, who visited India between 629 and 645. Buddhism was fast declining, but still lingered, and was in fact regarded by the king too favourably to suit the Brāhmans, who tried to murder him. Harshavardhana invaded Western India between 633 and 640 and also conquered Nepāl, but was repulsed in an expedition to the Deccan. His appears to have been the first great kingdom of the modern Rājputs, who probably represent the Hinduized descendants of the invaders from Central Asia. Harshavardhana's empire did not last, and historical sources fail almost entirely till the latter half of the ninth century, when Raghuvansi kings were ruling at Kanauj. One of these was conquered in 917 by Indra (III) of Gujarāt, but was restored by Harsha the Chandel, whose clan was rising into importance in BUNDELKHAND. North-west of the Provinces the Tomars were gathering strength in the

Punjab, though they were defeated in 988 by Sabuktagīn of Ghazni. At Kanauj the Tomars succeeded the Raghuvansis, and gave place to the Gaharwārs.

The Provinces had been free from foreign invaders for about four hundred years, when in 1018 Mahmūd of Ghazni crossed the Jumna, and took Bulandshahr, the rich city of Muttra, with its temples full of jewels and gold, and Kanauj. This expedition and two more in 1021 and 1023, directed against Kanauj, Gwalior, and Kālinjar, were mere raids, in which plunder rather than conquest was the aim. Throughout Oudh traditions are numerous about the exploits of Mahmūd's general, Sālār Masūd Ghāzī, who is said to have fallen at Bahraich in 1033, fighting against Suhil Deo, Rājā of Gondā; and although the Muhammadans had got no permanent hold on the country, they left converts behind them. The Ghaznivid rulers gave place to the Ghorids, who gradually overran the Punjab. Muhammad Ghorī failed in 1191 to crush the great Prithwī Rāj of Delhi, who had extended the power of the Chauhāns as far as southern Bundelkhand; but in the next year he was successful, and Prithwī Rāj lost his life with his kingdom. Kutb-ud-dīn, a Turkī slave, was appointed general in Hindustān, and in 1192 captured Meerut, the first town to fall east of the Jumna. Delhi, Kālinjar, Mahobā, and Koil were then taken; and in 1194 Muhammad and his general defeated Jai Chand of Kanauj, and thus broke the last Hindu power of importance. Budaun and Ajodhyā were made the seats of local governors, who had plenty of fighting with their turbulent subjects during the next few years. Bundelkhand had not been subdued, and the first half of the twelfth century was a time of war in most parts of the Provinces. In Southern Oudh the Bhars had risen on the fall of Kanauj; but their chiefs, Dalkī and Malkī or Dal and Bal, were crushed in 1247. Things were quieter under Ghiyas-ud-dīn Balban (1265–87), who was a strict but just ruler, and kept the Provinces at peace, partly no doubt to be free in case the dreaded Mongols should appear on the north-west. The Slave dynasty of Delhi was followed by the Khiljīs; and under the second of this line, Alā-ud-dīn Muhammad, who gained the throne by murdering his uncle on the sands of the Ganges between Karā and Mānikpur in 1295, government was a stern reality. Spies were everywhere; all pensions, grants, and endowments were resumed; Hindus were heavily taxed; the land revenue amounted to half the produce; and an attempt was made to fix prices. Alā-ud-dīn conquered the Deccan and repelled the Mongols; but the harshness which kept internal peace in his lifetime was itself the cause of disruption when his strong personality was removed in 1316. Five years later his debauched son was murdered, and a pretender was beheaded after a reign of a few months. Ghiyās-ud-dīn Tughlak, first of the Turkī line, had been Alā-ud-dīn's general

in the Punjab, and order was soon restored. Under his son, Muhammad bin Tughlak, a reign of terror was revived. Ghiyās-ud-dīn had reduced the land revenue to one-tenth of the gross produce; but it was now increased by new cesses to such an extent that when drought came in 1344 a famine began, which lasted for years, and depopulated the Doāb. In 1351 Fīroz Shāh (III) began a wise and beneficent rule. Taxation was reduced and yet money was available for public works. The town of Jaunpur was founded in this reign, and a large fort was built near Budaun. After the death of Fīroz in 1388 the Delhi kingdom fell to pieces. In 1394 Khwāja Jahān was made governor of Kanauj, Oudh, Karā, and Jaunpur, and assumed independence. For more than eighty years this Sharkī ('eastern') dynasty ruled from JAUNPUR over the greater part of the Provinces, and has left splendid memorials in the mosques erected at the capital city. Tīmūr, the Mongol, took Delhi in 1398, and next year harried the present Meerut Division. The first half of the fifteenth century saw a succession of puppet rulers or usurpers at Delhi or Kanauj, while the Doāb, Rohilkhand, and Bundelkhand were the scenes of risings by the Hindus, and conflicts between the kings of Jaunpur, Delhi, and even Mālwā and Gujarāt. At the end of the period there were independent rulers at Sambhal, Koil or Jalesar, Rāprī, and Kampil or Patiālī. In 1450 or 1451 the Afghān line of Lodī was founded by Bahlol, who started vigorously on the task of crushing the petty local rulers, and breaking the more important power of Jaunpur—a task which took twenty-five years to accomplish.

Early in the sixteenth century the capital was moved from Delhi to Agra, which was to become a great city under the Mongols or Mughals, who now appeared again. In 1526 Bābar defeated the Afghān king, Ibrāhīm, at Pānīpat, but found himself in difficulties at Agra. On the west the Rājputs were united under the Rānā of Udaipur, while on the east the Afghāns were threatening an attack from Kanauj. The crown prince, Humāyūn, made a successful raid as far as Jaunpur and Ghāzīpur, and Bābar gained a great victory over the Rājputs near Fatehpur Sīkri. He was thus able to send troops east to check the Afghāns, who had taken Koil and held the central Doāb. The Mughal forces were, however, unsuccessful, and Bābar had to stop his invasion of Central India and return to their aid. He pressed on to Kanauj, and after defeating his opponents north of the Ganges marched through Oudh and returned to Agra, where he died. When Humāyūn succeeded to his father's kingdom in 1530, he found it imperfectly subjugated and difficult to rule. His first efforts were in Central India; but though he was successful there, a rival was consolidating his resources in Bihār and the east of the Provinces. This was Sher Khān Sūri, who had accepted a command from Bābar, but

now aimed at independence, and refused the offer of Jaunpur. After three years' fighting he gained a complete victory over Humāyūn at Kanauj in 1540 and won the throne of Northern India, with the title of Sher Shāh. He was a great administrator, who made roads, reformed the currency, and laid the foundations of a sound revenue system. In 1545 he was fatally wounded while besieging Kālinjar, and during the next ten years the Sūri power fell to pieces. Humāyūn returned in 1555 and recovered Agra and Delhi, but died in 1556.

Akbar was a boy of thirteen at his father's death, and had to conquer his kingdom before he could rule it. For two years the Punjab kept him busy, but in 1558 he came to Agra and reduced Gwalior. The next year saw the Afghāns defeated in Jaunpur and Benares, but they rebelled again in 1561, and Chunār was not taken till later. In 1565 the lords of Ajodhyā and Jaunpur revolted and took Lucknow, and in 1567 another governor of Jaunpur headed a rising. Apart from these events the Provinces had entered on a period of comparative peace and good government, which was to last for a century and a half. Akbar abolished the pilgrim and poll taxes on Hindus and many vexatious cesses. The land revenue system was still further improved, and assignments of land were examined. In the record of his great survey is found the most complete account of the country at any period before British rule, and the liberal monarch gathered round him poets, musicians, theologians, and great writers. The earliest Christian mission in Northern India was established at his invitation. Magnificent forts were built at Agra and Allahābād; and on a rocky ridge west of Agra, where the saint lived who foretold the long-desired birth of a son to the monarch, a splendid mosque and palace buildings were raised, surrounded by the new town of Fatehpur Sīkri.

In 1605 Akbar died at Agra, and his son succeeded as Jahāngīr. Jahāngīr's son, Khusrū, attempted to seize the throne; but apart from this the reign at first passed peacefully in Northern India, though there was fighting elsewhere. In 1623 Khurram, another son of the emperor, rebelled and advanced towards Muttra, but was driven back to Central India. The next year he advanced through Orissa, while Abdullah Khān, a noble who favoured him, besieged Allahābād. The royal troops forced Abdullah to fall back on Jaunpur and Benares, where he met Khurram, who again retreated to the Deccan. Jahāngīr, like his father, was a great builder, and he raised a noble tomb over Akbar's remains near Agra, and added palaces in the royal forts at Agra and Allahābād. He received with distinction English travellers at his capital and elsewhere.

On Jāhāngir's death at Lahore in 1627, Khurram hastened to Agra and obtained the throne under the name of Shāh Jahān. Early in his

reign the Bundelās, who had been turbulent throughout Akbar's life, but had been friendly to Jahāngīr, broke out and several expeditions were sent against them. In 1639 a raid was made on the Hindu temples which had been built at Benares in the previous reign, and many were destroyed; but the Provinces were generally at peace. The careful system of government started by Sher Shāh, and improved by Akbar, still continued, though deterioration had commenced. The most splendid relic of the reign is the tomb of white marble, built at Agra on the bank of the Jumna by Shāh Jahān in memory of his wife, where the remains of the emperor and his beloved Mumtāz Mahal lie side by side under the most beautiful memorial of a life's devotion that the world has seen. In 1657 Shāh Jahān's health failed, and he was now to be treated by his own sons as he had dealt with his father. The favourite, Dārā Shikoh, was with him and regarded himself as heir; Shujā was in Bengal, Murād Bakhsh at Ahmadābād, and Aurangzeb, the most capable of all, in the Deccan. Dārā seized the treasure at Agra, and sent one army which surprised Shujā near Benares, and another to watch Aurangzeb and Murād Bakhsh, who combined forces and defeated it. The allies then marched on Agra, and were successful in a battle at Sāmogarh.

Aurangzeb entered Agra in 1658 and followed Dārā, who had fled to the Punjab. He formally assumed the throne at Lahore, while Shāh Jahān remained a prisoner in the fort at Agra till his death there in 1666. Shujā's forces took Benares, Chunār, Allahābād, and Jaunpur; and Aurangzeb abandoned the pursuit of Dārā, who had escaped to Sind, and returned to meet them. At a battle between Korā and Khajuhā in Fatehpur District, Aurangzeb won a decisive victory, which practically closed this war of succession. As in the previous reigns, these Provinces enjoyed comparative freedom from war; but the administration was harsh, and the way was being prepared for coming anarchy. At Benares and Muttra mosques were built upon the holiest temples. The poll tax on Hindus was revived; and although, as usual at the beginning of a reign, cesses were formally abolished, the religious zeal of the emperor and his continued absence and absorption in the affairs of the Deccan had bad effects on the administration.

When Aurangzeb died in 1707 he left a will advising his three sons to divide the empire. The second son, Azam, refused to accept the division and fell in battle at Jājau in Agra District, fighting the eldest brother, Muazzam, who became emperor under the title of Shāh Alam Bahādur. Kām Bakhsh, the youngest, died of wounds received near Hyderābād in the following year. The collapse of the Mughal power was at hand. Shāh Alam Bahādur died in 1712, and the approaching disasters became clearer. In less than fifty years eight rulers sat on the throne of Delhi. One of these, Muhammad Shāh, reigned for thirty

years and died a natural death; three were puppets, each reigning for only a few months; three more were murdered while reigning, and one was deposed and blinded. The dissolution of the empire was primarily due to the incompetence of these degenerate rulers; but it was hastened by the repeated attacks of the growing Hindu powers on the west, the north, and the south (the Jāts, Sikhs, and Marāthās), and the paralysing shocks dealt by Persian and Afghān invaders from beyond the north-west frontier.

Before the death of Aurangzeb the Jāts had begun to give trouble west of Agra, and gradually extended their influence within the Provinces. The first incursions of the Sikhs, who had changed from a religious sect to a warrior nation, took place in 1709, when they invaded Sahāranpur and poured into Muzaffarnagar, but were checked there and driven back for a time into the hills.

The most considerable factor was, however, the growth of Marāthā power north of the Vindhyas. The first appearance of Marāthā armies so far from the Deccan, where their influence was already paramount, took place in 1718, when they were invited to Delhi by one of the factions at the court of Farrukh Siyar. They withdrew for a time, but some years later (1729) they appeared again in what is now British Bundelkhand, where the Bundelās had been trying with variable success to throw off the Muhammadan yoke; and this area became subject to Marāthā rule and remained so for more than seventy years. A raid in which Agra and Etāwah were plundered (1737) was repulsed by Saādat Alī, the capable Wazīr of the empire and governor of Oudh, and for a time the Marāthās were held in check. They were, however, invited to return (1751) by Safdar Jang, nephew and successor to Saādat Alī, who required help against the Pathāns of Farrukhābād. The alliance was not lasting, and soon afterwards Safdar Jang found his former friends arrayed against him (1754).

In 1738 Nādir Shāh swept down on Delhi, slaughtering and plundering; and although his stay was short, the blow to the empire was serious. An attempt by his successor, Ahmad Shāh Durrānī (1748), was repelled by Safdar Jang, but the shock caused the death of the emperor, Muhammad Shāh. A second invasion (1752) was more successful, and the Afghāns penetrated, five years later, as far as Agra, though they were unable to take that city.

During the first ten years after the death of Shāh Alam Bahādur the predominant feature of internal politics at Delhi was the struggle at court between the Irānī or Persian party and the Turānīs or people from Central Asia. Two Saiyid brothers, who belonged to the former party, were of great assistance to Farrukh Siyar in his struggle for the throne. The weak-minded emperor was then, however, won over by the Turānīs and lost his life at the hands of the Saiyids (1719). In

1720 one of the brothers was murdered, and the other was defeated soon after.

From this time commences the history of the new states which began to be formed within the Provinces, and became practically independent, though acknowledging the emperor as their nominal lord.

Chief among these was OUDH, which had hitherto been a mere province of the empire. Saādat Alī, a leading member of the Turānī party (though a Persian), was appointed governor of Oudh in 1721, and of Allahābād later; and though his abilities led to his being frequently employed elsewhere, he ruled efficiently through deputies. Safdar Jang, Saādat Alī's nephew and son-in-law, succeeded him, and maintained his position in Oudh, though he had constant fighting with the two Pathān powers of Rohilkhand and Farrukhābād which had grown up on his western borders. Both Saādat Alī and Safdar Jang, in addition to holding the Province of Oudh, were Wazīrs or Ministers of the empire; but in 1754 the emperor Ahmad Shāh deprived Safdar Jang of the latter office, in favour of a new Wazīr, named Ghāzī-ud-dīn.

The Afghāns or Pathāns had first become important in these Provinces under Sher Shāh Sūri, himself a Pathān. The Mughal emperors who succeeded him discouraged them, till Aurangzeb made use of Pathān soldiers in the Deccan. A Bangash Pathān, named Muhammad Khān, who had served as governor of Mālwā and Allahābād, where he had failed to repel the Marāthās (1729), founded the city of FARRUKHĀBĀD near his birthplace, and established a practically independent power in the central Doāb. In 1740 a man of uncertain origin, named Alī Muhammad, who had been consolidating the Rohillas, was formally appointed governor of ROHILKHAND. He quarrelled with Safdar Jang and was banished for a time (1745), but was allowed to return (1748), and increased his influence considerably. When Alī Muhammad died (1749), Safdar Jang laid plots to annex both Rohilkhand and Farrukhābād. His first scheme was to promise Kaim Khān, Nawāb of Farrukhābād, a grant of Rohilkhand, if he could conquer it. The bait was taken, and the Nawāb marched to Budaun and lost his life in battle. Safdar Jang at once annexed Farrukhābād; but Kaim Khān's brother, Ahmad Khān, drove out the governor who had been sent there, and then defeated Safdar Jang, thus acquiring a state which stretched from Alīgarh to Cawnpore. Having failed alone, Safdar Jang called in the Marāthās, and Ahmad Khān fled to Kumaun.

When the third Durrāni invasion took place (1757) the situation was as follows. The infamous Wazīr, Ghāzī-ud-dīn, had blinded and deposed the emperor, Ahmad Shāh, and had set up a new ruler, named Alamgīr (II), whose authority was limited to a small area round Delhi.

Najīb Khān, a Pathān, was in possession of the north of the present Meerut and Bareilly Divisions independently of the Rohillas, who held the rest of Rohilkhand. The central Doāb was subject to the Nawāb of Farrukhābād, and all the rest of the Provinces outside the hills was held by the Nawāb of Oudh, except Bundelkhand, which was in the power of the Marāthās. Najīb Khān had favoured the Durrānis, and when they withdrew to Kābul, the Wazīr, Ghāzī-ud-dīn, sought the aid of the Marāthās to crush him. Two years later (1759) Ghāzī-ud-dīn murdered the emperor, Alamgīr (II), and set a pretender on the throne, though Alī Gauhar, afterwards known as Shāh Alam (II), who had fled to Bengal, was generally recognized. The Rohillas and Shujā-ud-daula, Nawāb of Oudh, were seriously alarmed at the growth of Hindu influence, for Jāts and Rājputs had now united with the Marāthās for a final struggle against the Muhammadan powers. In 1760 Ahmad Shāh Durrāni returned to India, and was joined by the Rohillas and the Nawāb of Oudh. For two months the great armies representing the rival religions lay opposite each other near the historic site of Pānīpat, engaging in skirmishes, till early in 1761 a pitched battle took place, and the fortunes of Northern India were decided for a time by the crushing defeat of the Hindus.

Shāh Alam had come into conflict with the English in Bihār, and in 1761 retired to Allahābād with the promise of an annual payment of 24 lakhs in lieu of the revenue of Bengal. Two years later the governor of Bengal, Mīr Kāsim, caused a massacre of the British at Patna and fled to Oudh, where Shujā-ud-daula took up his cause. The allies invaded Bihār, but failed to take Patna, and were defeated at Buxar (1764). The British advanced to Allahābād, and then met Shujā-ud-daula, who had again called in the Marāthās from Bundelkhand, near Jājmau in Cawnpore District. The Nawāb and his allies were defeated; and it was finally decided that Shāh Alam should receive Allahābād and Korā (corresponding to the present Districts of Allahābād, Cawnpore, and Fatehpur) as well as 26 lakhs a year from the revenues of Bengal, while Shujā-ud-daula undertook to pay the British a contribution of 50 lakhs.

Although the battle of Pānīpat had broken up the coalition among the Hindus, it had not operated as a check on the incursions of the three principal members in the west of the Provinces. In the northern Doāb the Sikhs were continually raiding the territory held by Najīb Khān. The Jāts seized Agra, and attempted to take Delhi (1763); the gradual increase in their power was, however, checked by the progress of the Marāthās, who occupied Delhi, where Shāh Alam joined them against the advice of the British. When these successes were followed up by Marāthā raids in Rohilkhand the situation became serious. In 1772 Sir Robert Barker met Shujā-ud-daula, who

attempted to gain the alliance of the Rohillas; but these distrusted him, and only agreed to join when their forces were broken up by the Marāthās.

The Marāthās then extorted from the wretched emperor a grant of the Allahābād territories, and in 1773 marched to Rāmghāt on the Ganges and demanded the amount due on bonds given to them twenty years before. British troops were now sent up to guard the Oudh frontier, and the Marāthās were forced to leave Rohilkhand, and later in the year were driven out of the Doāb. The Allahābād territory was then assigned to Shujā-ud-daula, on the ground that the emperor had forfeited it by his grant to the Marāthās. The Rohillas had been intriguing to the end with the Marāthās, and had refused to keep their engagements with Shujā-ud-daula, by which the British were also to benefit, so in 1774 British troops marched through Oudh, and Rahmat Khān, the Rohilla leader, was defeated and killed near Mīrānpur Katra in Shāhjahānpur, and Rohilkhand was made over to the Nawāb of Oudh.

When Shujā-ud-daula was succeeded in 1775 by Asaf-ud-daula, a new treaty was made with the British, by which they obtained the sovereignty of most of the Benares Division. Meanwhile the emperor's affairs had been well managed by Mirzā Najaf, who drove the Jāts out of Alīgarh, Muttra, and Agra, but had difficulty in repelling the Sikhs, whose yearly raids grew more and more serious. The Benares territory had remained under the rule of Rājā Chet Singh, who refused in 1780 to supply troops and pay an increased subsidy. Warren Hastings came to Benares, and an attempt to arrest the Rājā led to an insurrection, which was soon quelled. Chet Singh fled and was replaced by Mahīp Nārāyan Singh, and British administration commenced soon after.

Except in the tracts liable to Sikh raids the Provinces were now fairly quiet for a few years; but the Marāthās appeared again with the Savoyard soldier, De Boigne. They seized Agra, Muttra, and the northern Doāb, and foiled the last attempt made to revive Muhammadan power in 1787. The infamous Ghulām Kādir, grandson of Najīb Khān, was forced back to Delhi, where he blinded the helpless emperor, and Mughal rule was now at an end. North of Delhi a considerable area came into the power of George Thomas about 1795. The central Doāb was held by the Marāthās under De Boigne, who was succeeded by Perron in 1796; and Farrukhābād was still governed by a Nawāb, who recognized the authority of the Oudh government. The decline of the latter power led to the still further growth of British influence. Asaf-ud-daula died in 1797, and was succeeded (after a short interval, during which his reputed son, Wazīr Alī, reigned) by his brother Saādat Alī, who ceded to the British the fort of Allahābād,

and promised an annual subsidy of 76 lakhs in return for a guarantee against invasion.

At the commencement of the nineteenth century the British thus held only the present Benares Division (except South Mirzāpur) and the fort of Allahābād. In 1801, when Rohilkhand and other parts of the Oudh territory were in a state of anarchy, and a grandson of Ahmad Shāh Durrāni was threatening to invade India, Saādat Alī, Nawāb of Oudh, in return for a guarantee of protection, made over to the British the so-called 'Ceded Provinces,' which included the present Gorakhpur and Rohilkhand Divisions, with the Districts of Allahābād, Fatehpur, Cawnpore, Etāwah, Mainpurī, Etah, the south of Mirzāpur, and the Tarai *parganas* of the Kumaun Division. A year later the Nawāb of Farrukhābād ceded his shrunken dominions. Oudh was thus surrounded on all sides but the north by British territory. In 1803 war broke out with the Marāthās over events in Western India. Lord Lake, starting from Cawnpore, conducted a brilliant campaign, in the course of which he took Alīgarh by storm and occupied Delhi and Agra. The result was the acquisition from the Marāthās of (1) the 'Conquered Provinces,' which included the Meerut Division, the rest of the Agra Division, and the Districts round Delhi now in the Punjab; and (2) most of the present Districts of Bāndā and Hamīrpur, and small tracts in Jālaun, Gohad, and Gwalior. The two last were restored to Sindhia in 1805. In 1816 a war with Nepāl, which had been caused by the repeated attacks of the Gurkhas on Gorakhpur, ended with the cession of the Kumaun Division and Dehra Dūn District.

All of these tracts were at first included in the Bengal Presidency, and brought under the immediate control of the Governor-General-in-Council. In 1833 an Act of Parliament was passed to divide the Bengal Presidency into two parts, that lying to the north-west being called the Presidency of Agra. A Governor was appointed; but the scheme was never fully carried out, and two years later another Act authorized the appointment of a Lieutenant-Governor. The North-Western Provinces as then constituted comprised the present Province of Agra, except Jhānsi and most of Jālaun, and also included the Delhi territories and Ajmer, which had been brought under the regular administration in 1832. Merwāra was added fourteen years later. In 1853 the Saugor and Nerbudda territories, which had been acquired in 1818, were formally incorporated in the Provinces. The Peshwā had ceded the sovereignty over the whole of British Bundelkhand in 1817, and between 1840 and 1853 Jhānsi and the rest of Jālaun and a part of Hamīrpur were acquired from petty rulers by lapse. Oudh was annexed in 1856. Immediately after the Mutiny the Delhi territories were transferred to the Punjab, while small additions were

made to Bundelkhand, part of the *tarai* north of Oudh was given to the Nepālese, and a few villages in Bareilly and Morādābād were granted to the Nawāb of Rāmpur. The most considerable changes since the Mutiny have been the transfer of the Saugor and Nerbudda territories to the Central Provinces in 1861, and of Ajmer-Merwāra to the Government of India in 1871; but there have also been minor changes in Jhānsi and Bahraich.

The old lawlessness did not pass away at once. In 1816 the levy of a house tax caused a serious outbreak in Rohilkhand, while in 1824 dacoity increased in Sahāranpur almost to the stage of insurrection. *Thagī* was rife throughout the Provinces, and for years the great rivers, which formed the principal trade routes, were infested by pirates. Two events of importance stand out beyond these matters—the annexation of OUDH and the great Mutiny. In Oudh the government had steadily deteriorated, and the kingdom was only kept together by British support. The king was called on to abdicate in 1856, and on his refusal was deposed.

The Mutiny broke out at Meerut in May, 1857. It was essentially a mutiny of the sepoys; but where representatives of former rulers were found, as at Bareilly, Farrukhābād, Bāndā, Cawnpore, Jhānsi, and elsewhere, these assumed the leadership. In other places the disorder took the form of anarchy rather than the revival of native rule; Etāwah District was actually administered by native officials and landowners for some time after the Collector had taken refuge at Agra. By the end of June the forts of Agra and Allahābād, and the Residency at Lucknow, were the only places still held by the British; but Cawnpore was retaken within a month, and the recovery began. After the fall of Delhi on September 19, Greathed's column marched down through the Doāb. At the same time the Lucknow garrison was reinforced, and it was relieved in November, though the city was not retaken until March, 1858. Rohilkhand was then reduced, while Sir Hugh Rose, advancing from Central India, took Jhānsi in April, 1858. Rewards and punishments followed. The garrison in 1856 had consisted of about 53,000 Native and only 5,200 British troops, and the latter number was raised considerably. The police force was reorganized and the population was disarmed, while forts were demolished. Subsequent disturbances have been chiefly dacoities and religious riots.

The earliest archaeological remains which can be dated with certainty are the inscriptions of the great Mauryan king, Asoka, on pillars at Benares and Allahābād, and on a rock at Kālsī in Dehra Dūn District, which belong to the third century B.C. It is probable that the fine *stūpas* at Sārnāth near Benares and at Kasiā in Gorakhpur are even older, and the excavation of a *stūpa* at Piprahwa in Bastī District has

yielded a casket bearing an inscription in characters of the third, fourth, or fifth century B.C. Fragments of stone railings and buildings, coins, clay seals, and other relics of Buddhism have been found in every part of the Provinces except the Himālayas. The principal sites that have been regularly excavated are SET MAHET (Gondā), Ahichhattra (Bareilly), SANKĪSĀ (Farrukhābād), MUTTRA, and Bhuilā Dīh (Bastī); but many others await exploration.

Excavations at MUTTRA have yielded Jain sculptures and fragments of Jain temples, some of which bear inscriptions dated in the time of the great Kushan kings (first or second century A.D.). In the Lalitpur *tahsīl* of Jhānsi District many fine Jain temples and sculptures of the mediaeval period (900 to 1100) are still in a fair state of preservation.

While there are many sites in the Provinces which popular tradition identifies with places mentioned in the great epics, the earliest purely Hindu remains are those of the Gupta kingdom of the fourth and fifth centuries A.D. Inscriptions and a single copperplate of the early Gupta kings have been found in various places, from Gorakhpur and Ghāzīpur on the east to Etah and Bulandshahr on the west. A beautiful small temple near DEOGARH in Jhānsi District is assigned to this period. The disorder which followed the break-up of the Gupta power was not favourable to the architect and builder, while the temples raised between the eighth and twelfth centuries, when Kanauj was the seat of a great Hindu dynasty, were mostly demolished or converted into mosques by the Muhammadans. The remains of Hindu temples used in this way are especially noticeable at KANAUJ, JAUNPUR, AJODHYĀ, MUTTRA, and BENARES. In Kumaun and Bundelkhand, however, mediaeval temples have survived. The chief centres of Hindu religious life, at the present time, thus contain hardly any ancient Hindu buildings; and at Hardwār, Ajodhyā, Benares, and Muttra most of the temples have been built recently. During the tolerant reign of Akbar some fine temples were built at BRINDĀBAN, one of which (erected about 1590) is especially magnificent. The history of the mediaeval Hindu period has been largely recovered from inscriptions and from the study of coins.

The early Muhammadans have left many memorials in the shape of mosques, *īdgāhs*, and tombs. The oldest among these are some buildings constructed at Budaun by the emperor Altamsh in the beginning of the thirteenth century. The finest specimens are, however, the great mosques at JAUNPUR, built two hundred years later by the Sharkī kings, which are particularly striking for their huge façades, recalling the propylons of Egypt.

During the sixteenth and seventeenth centuries the emperors Akbar, Jahāngīr, and Shāh Jahān spent large sums on the adornment of the

royal residences at FATEHPUR SĪKRI and AGRA, where stately palaces, magnificent tombs, and mosques still recall the memories of the great Mughals. Much has been done within the last few years to repair and preserve these valuable monuments. In the eighteenth century the type of architecture deteriorated, though buildings of some beauty were built by the Rohillas and the early Nawābs of Oudh.

Population.

The total population of the United Provinces (1901) is 47·7 millions, and with dependent Native States 48·5 millions. The pressure on the soil is greater than in any other Province in India, for the number of persons per square mile in British Districts is 445, or, excluding the nineteen largest towns in the Provinces, 427. But there are considerable variations. The Himālayan tract, with its forest land and steep mountain sides, supports only 95 persons per square mile, and at the opposite end of the Provinces the infertile Central India plateau and the hilly Mirzāpur District have an almost equal density of 197 and 192. In the submontane Districts and the great plain there is a gradual increase from west to east. The western sub-Himālayan Districts have 409 persons per square mile and the eastern 561. In the Gangetic plain the density rises from 512 in the west to 549 in the centre and 718 in the east. Twelve Districts have a density of less than 400, fourteen vary between 400 and 500, and twenty-two have a higher density. In Garhwāl only 79 persons are found to each square mile, while in Balliā there are 791, though the largest town in that District contains less than 16,000 inhabitants.

There are seven cities with a population exceeding 100,000: namely, LUCKNOW (264,049), BENARES (209,331), CAWNPORE (197,170), AGRA (188,022), ALLAHĀBĀD (172,032), BAREILLY (131,208), and MEERUT (118,129); thirty-one towns of between 20,000 and 100,000; and seventy of between 10,000 and 20,000. The total urban population, including that of 187 places possessing urban characteristics though the population is below 5,000, is 5,273,573, or about 11 per cent. of the total, which is larger than in most parts of India. The proportion of the urban population varies from 37 and 26 per cent. in Lucknow and Benares, where large cities are situated in small Districts, to less than 1 per cent. in Sultānpur, being lowest in the eastern parts of the Provinces and in the hills. Of the rural population, 37 per cent. live in villages with a population under 500, and 52 per cent. in villages of 500 to 2,000, while inhabitants of villages of 2,000 to 5,000 form 10 per cent. and of larger villages 1 per cent. of the total. The term 'village' here means the revenue *mauza* or parish. In the western part of the Provinces the village sites are usually compact groups of houses, a relic of the precautions taken against Sikh invasions during the eighteenth century. In the centre and east scattered hamlets are

more common, and in Ghāzīpur District there are 'villages' of 10,000 to 12,000 inhabitants without any single site containing as many as 5,000.

General estimates of the population of the Province of Agra were made in 1826 and 1848, and a Census was carried out in 1853, 1865, and 1872. In Oudh the first Census was taken in 1869. In 1881, 1891, and 1901 enumerations in both Provinces were simultaneous with those throughout India. The variations are of doubtful value before 1869 and 1872; but it is certain that between 1853 and 1865 the population of the larger Province decreased considerably owing to the Mutiny, and to famine and disease. In 1872 there was an increase, in spite of the famine of 1868, and this Census probably understated the figures for the Benares Division, while on the other hand the Oudh Census of 1869 overstated the truth. According to the returns, the population of the United Provinces rose from 42,002,897 in 1872 (1869 in Oudh) to 44,107,869 in 1881; but the greater portion of this increase has been assigned to improvements in enumeration, and the scarcity of 1877–8 and the fever epidemic of 1879 probably kept the population stationary. In the next ten years (1881–90) the total rose to 46,905,085, an increase of 6·3 per cent. These were years of good rainfall, and the distribution of variations is closely connected with the character and position of different tracts. The period 1891–1900 was marked by two serious calamities: it began with wet years, culminating in the abnormal season of 1894, when the rainfall was 57 inches as compared with a mean of 37 inches. The following year rain was badly distributed, and in 1896 the monsoon ceased prematurely, causing widespread distress. The pressure of high prices was again felt in 1899 and 1900, when other parts of India were visited by severe famine. The Census of 1901 showed a population of 47,691,782, an increase of 1·7 per cent., which is little more than half the normal rate calculated in 1891. In the western plain the increase was 10 per cent., but the Himālayan tract was the only other portion which increased at a greater rate (2·6 per cent.) than the Provinces as a whole; the submontane tracts and the central plain increased by smaller amounts. On the other hand, the Central India plateau lost 8·4 per cent. of its population, the eastern plain 7·1, and Mirzāpur District 6·8 per cent.

In the Central India plateau, Allahābād south of the Jumna, Mirzāpur, parts of Agra and Etāwah and Hardoī, the failure of the crops, owing to drought in 1895 and 1896, was the main cause of the decrease, and would have been sufficient to affect the population seriously if the preceding seasons had been favourable; but its effects were intensified by the fact that untimely rainfall had caused serious damage to successive harvests and thus impaired the resources of the people. In the

eastern plain and submontane tracts, however, the predominant factor was mortality due to disease caused by excessive rain, and a corresponding decline in the birth-rate, while the damage to crops from the same cause was probably greater than the losses due to drought. The western plain and the Himālayan tracts, with small exceptions, suffered appreciably from neither flood nor famine, and a large part of the former benefited materially from the adversity of other regions.

There is no considerable influx of rural population into towns, and labour is often a difficult question in the few large manufacturing towns such as Cawnpore. Before British rule the growth of large towns and cities depended chiefly on religious sanctity and the site chosen as the seat of provincial governments. Benares, Allahābād, Bindhāchal, Ajodhyā, and Muttra are examples of the former, Benares being one of the principal seats of the Saiva cult in India, while Ajodhyā and Muttra are centres of the worship of Vishnu in his incarnations as Rāma and Krishna. Agra, Lucknow, Fyzābād, and Jaunpur are towns which grew up round the courts of native rulers. The cities which have thriven by trade may be divided into those in which the trade is chiefly concerned with the collection and distribution of produce, or of articles manufactured elsewhere, such as Bareilly, Meerut, Shāhjahānpur, Morādābād, Alīgarh (Koil), Sahāranpur, Gorakhpur, and Jhānsi; and those in which manufactures have become important, such as Cawnpore, Agra, Mirzāpur, and Hāthras. The growth of towns is at present in a transitional state. Railways have in many cases ruined the trade of former centres of distribution, while others have prospered and new ones have been formed.

The people are not generally disposed to move from their homes. In 1891, 89 per cent. of the total population had been born in the Districts where they were enumerated, and in 1901 the proportion rose to nearly 91 per cent. Internal migration is chiefly due to the marriage customs of the Hindus, who contract alliances with persons living some distance away. Thus in 1891 nearly 80 per cent. of the persons who had been born outside the Districts where they were enumerated were females, while in 1901, after a succession of bad years which had caused men to wander in search of a living and had checked marriages, the proportion fell to 60 per cent. It is calculated that about 700,000 persons left for other parts of India between 1891 and 1901, while more than 100,000 were registered as emigrants to the West Indies, Fiji, and Natal, and there was a considerable exodus from the eastern submontane Districts into Nepāl. The emigrants are of two classes: those who seek work, or in the case of females are married, in Districts adjoining the Provinces; and those who go to distant parts of India. The latter class of emigration has begun to be appreciable, and large numbers

of persons from these Provinces are found in Assam, Bengal, Bombay, Burma, the Central Provinces, and Hyderābād. The Districts from which they chiefly go lie east of a line drawn through Allahābād and Fyzābād.

The age returns of the Census are of little absolute value without adjustment, but are of some use for comparative purposes. Thus the proportion of Musalmāns per 10,000 of population is higher than that of Hindus in each quinquennial period up to the age of fifteen, and again over the age of fifty, pointing to their greater fecundity and vitality. The distribution is appreciably affected by natural calamities; and the figures for 1901 show clearly the results of reduced birth-rates in 1895, following a year of fever, and in 1897, when there was famine. These results are most marked in the Districts worst affected. Thus in Jhānsi out of every 10,000 of population only 1,049 were under the age of five, as compared with a proportion for the whole Provinces of 1,268. The age returns also indicate the effect on population of calamities in earlier years, and show a difference between the distribution in urban and rural areas, there being a deficiency in age periods up to twenty in the former.

In rural areas only the few persons who are subject to the law for the prevention of infanticide (Act VIII of 1870) are bound to register births and deaths. Registration is carried out by means of the village policeman or *chaukīdār*. The *chaukīdārs* are usually illiterate, but are supplied with a notebook in which they get entries made, and which they take to the police station once or twice a week. The completeness of the record is checked by higher officials in the Police and Revenue departments, and also by members of the local boards, vaccinators, and Deputy-Sanitary Commissioners. In urban areas, where the Municipal or the Cantonment Act is in force, it is usually provided by rules having the force of law that the head of the family in which a birth or death occurs, and also the sweeper employed in the house, shall report it within a week. Registers are also kept at cemeteries and burning *ghāts* in a few towns. Failure to report is punishable with a small fine. In cantonments the medical officers also are bound to report. Other urban areas are under the same rules as rural areas, but supervision is better. As a rule each police circle is a unit of area, but places under the Municipal, Town Chaukīdārī, or Cantonment Acts, jails, reformatories, and lunatic asylums form separate units. Statistics are compiled in the office of the Civil Surgeon, and are forwarded through the District Magistrate to the Sanitary Commissioner. Testing by higher officials usually points to omissions varying from 2 to 3 per cent. of the number of entries tested, the rate of omission being slightly higher for births than for deaths. In periods of famine and epidemics deaths are not fully recorded. In 1901 the

population according to the Census was less by 3·4 per cent. than the population deduced from vital statistics; but allowing for emigration the discrepancy was less than 1 per cent., and the number of infants under one year agreed closely with the number deduced from the vital statistics of the previous year. Over small areas migration is so considerable and so irregular, that the population at inter-censal periods cannot be calculated. The proportion of females born to each 1,000 of males has increased regularly from 877 in 1881 to 905 in 1891 and 931 in 1901, which indicates improvement in registration, as omissions are probably more common in the case of females.

The following table shows the ratio per 1,000 of registered births and deaths, and the mortality from characteristic diseases in the three decennial years 1881, 1891, and 1901, and also in 1904:—

Year.	Population under registration.	Ratio of registered births per 1,000.	Ratio of registered deaths per 1,000.	Deaths per 1,000 from			
				Cholera.	Small-pox.	Fever.	Bowel complaints.
1881 .	44,107,869	40·34	31·79	0·58	0·39	24·95	1·88
1891 .	46,905,085	33·26	31·14	3·60	0·56	22·02	1·06
1901 .	47,691,782	41·35	30·30	1·13	0·02	23·46	0·57
1904 .	47,691,782	46·67	34·70	0·14	0·15	23·92	0·50

In 1904 the registered birth-rate per 1,000 varied from 61 in Hamīrpur to 28 in Dehra Dūn, and the registered death-rate from 47 in Farrukhābād to 24 in Bāndā.

The record of cause of death is, however, very incorrect. The *chaukīdār* classifies most diseases as fever, cholera, small-pox, or bowel complaints. Returns are obtained from medical officers, their subordinates, and from private practitioners; but the number of deaths reported in this way is too small (11,228 in 1903) to give satisfactory results. Fever, as appears from the statement given above, is usually reported to be responsible for about 75 per cent. of the total mortality. Pneumonia, which is common in the cold season, and many other diseases accompanied by a high temperature are included under fever. In years of excessive rainfall the death-rate from fever increases largely. Thus in 1894, 1,495,372 deaths were reported from this cause, and in 1897 the number was 1,463,716, as the poorer classes had been enfeebled by the scarcity of the previous year. In the twenty-one years 1881–1901, the deaths reported from cholera have varied from 2,508 in 1898 to 200,628 in 1887. From 1881 to 1890 the average was 60,968, and in the next ten years 81,415. Deaths from small-pox averaged 54,717 in 1881–90 and 18,229 in 1891–1900, the largest number in any year being 202,541 in 1884 and the smallest 981 in 1901. A few cases of plague first took place in 1897, and in the

following years there were small outbreaks. Early in 1901 the disease broke out more violently in the eastern Districts, and there were 9,778 deaths, chiefly in Benares (3,064), Balliā (5,278), Allahābād (661), and Jaunpur (712). The next year there was a more serious epidemic in Cawnpore District, where 9,753 deaths occurred, of which 6,336 were in the city. It has now been proved that *mahāmārī*, which has long been known in Kumaun, where it sometimes becomes epidemic, is identical with plague. In the early stages inspection on railways and the evacuation and disinfection of houses were found useful; but as the disease spread little could be done. Inspection on railways was abolished early in 1903, when the disease had become established in more than twenty Districts. The number of deaths from plague in 1904 was 179,082, the largest numbers occurring in Balliā (17,417) and Azamgarh (16,994). In 1905 the number rose to 305,737; the worst-infected District was Muttra, where 45,644 deaths from plague were recorded, and it is estimated that one-eleventh of the population were swept away by the epidemic.

The death-rate of infants under one year of age (calculated on the mean number of births during the year under report and that preceding it) was 238·4 per 1,000 in 1881–90, 230·1 in 1891–1900, and 232·7 in 1901. The lowest rate was 190·7 in 1893, and the highest 272·5 in the famine year, 1897. In 1903 the rate rose to 274, owing to the prevalence of measles.

Among Hindus some castes are divided into groups of different social standing, and a woman must marry into a group at least equal to, and if possible higher than, her own. The females of the highest groups thus find a difficulty in obtaining suitable husbands, and among Rājputs, Tagās, Jāts, Ahīrs, and Korīs this has led to female infanticide. The crime was formally declared murder by Bengal Regulation XXI of 1795, and attempts were first made to stop it by reforming public opinion and taking engagements from leading Rājputs to give up the practice. These attempts failed; and after much discussion a system of registration of births and deaths, which had been tried with more success, was legalized by rules made under Act VIII of 1870. The rules, which are enforced only where the practice is found to exist, provide that the head of a proclaimed household shall report every birth and death in his family, and every illness of a female child, to the *chaukīdār*, who reports such events, and also the departure of pregnant women, at the police station. Registers are kept by the police and checked on the spot by higher officials. In 1870, 590,560 persons were on the registers; but the number fell to 285,680 in 1881, 60,992 in 1891, and 44,173 in 1901, the decrease indicating the success obtained in checking the practice against which the rules were directed.

The proportion of insane persons to the total population in 1901

was 1·44 per 10,000, the rate for males being double that for females. In some of the Districts watered by the large rivers flowing from the hills cretinism affects the proportion, as idiocy is not distinguished from other forms of mental disease. This is more distinctly marked in the case of deaf-mutes, whose proportion is 3·73 per 10,000 over the whole Provinces, whereas the figure rises to 11 in Tehrī, 15 in Garhwāl, and 20 in Almorā. Nearly 17 males and nearly 18 females out of every 10,000 are blind, the highest proportion (about 30) being found in the central Districts. The proportion of lepers is 2·37 per 10,000, but the disease is more prevalent in hill Districts, the proportion rising to 20 in Almorā. Both blindness and leprosy appear to be decreasing.

The proportion of females to 1,000 males in the Provinces as a whole has risen from 925 in 1881 to 930 in 1891, and 937 in 1901. In the western plain it falls to 868, while in the eastern plain it rises to 1,039. There are two well-defined areas in which the number of females is equal to, or greater than, the number of males, namely Garhwāl and Tehrī in the hills and a continuous group of nine eastern Districts: in Balliā the proportion is as high as 1,084. The area where females are proportionately fewest is a compact group of Districts in the western plain—namely, Mainpurī, Etāwah, Farrukhābād, Etah, and Budaun—in which the proportion varies from 837 to 854. Allowing for the concealment of females at enumeration and for the effects of infanticide, both of which are probably of little effect now, and also for emigration, it appears that the proportion of females has some connexion with race, being highest where Aryan blood is diluted to a considerable extent with aboriginal.

The marriage ceremony among Hindus does not usually mark the commencement of conjugal life. In the highest castes the postponement of marriage till the age of puberty entails social discredit, but cohabitation is deferred till the bride has attained maturity. In the lower castes the age of marriage is later, and in some of the lowest consummation is a part of the ceremony. Some castes which have become Hinduized in recent times have not yet adopted the strict rule of child-marriage. The results of each Census during the period 1881–1901 point, however, to the conclusion that child-marriage is increasing. Taking both sexes together, only 10 per cent. of the population aged 15 and over are unmarried; but in the case of males 18 per cent. of Hindus and 17 per cent. of Musalmāns are unmarried, while the proportion for females sinks to 3 and 4 per cent. respectively. Marriage is usually earlier in the east of the Provinces than in the west. There are also fewer unmarried persons in the east, and castes in which marriage is latest have the largest proportion of such. Direct prohibition against the remarriage of widows is in force only among about one-quarter of the Hindu population; but where remarriage is allowed, the

second marriage, though legal, is celebrated without the usual rites, and bears a different name from ordinary marriage. Widowers also marry again less frequently than in European countries. Divorce is uncommon among Hindus, and if wives are put away for unchastity, they cannot remarry except in the case of the lowest castes. Among Musalmāns divorce is permitted, but is strongly reprobated, and a practical check is put on it by fixing the nominal dower (which is repayable on divorce) at an amount the husband could never pay. Polygamy is allowed by many Hindu castes, and is permitted in all cases where a first wife is barren. There were 1,107 married females to 1,000 married males among Hindus in 1901, and 1,032 among Musalmāns. The marriage of two sisters either at the same time or one after another is not forbidden. Polyandry is prevalent in the Jaunsār-Bāwar *pargana* of Dehra Dūn; but the husbands must be brothers, i.e. sons of the same set of fathers, and succession is traced through males, not through females.

Statistics of civil condition in 1891 and 1901 are given below:—

Civil condition.	1891.			1901.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
Unmarried	17,884,357	10,944,402	6,939,955	18,169,477	11,063,796	7,105,681
Married .	23,694,288	11,820,410	11,873,878	23,948,963	11,913,792	12,035,171
Widowed .	5,326,146	1,538,415	3,787,731	5,573,342	1,639,354	3,933,988
Total	46,904,791	24,303,227	22,601,564	47,691,782	24,616,942	23,074,840

Three languages are spoken by the great majority of the people in the plains. The central portion, roughly bounded by a line drawn north and south through Bāndā town on the west and a parallel line through Mirzāpur on the east, is the Eastern Hindī tract, with a population of nearly 15 millions. Western Hindī is spoken by over 21½ millions west of this area, and Bihārī by 10 millions east of it. The official language is Urdū or Hindustāni, a dialect of Western Hindī. An educated native usually speaks Urdū to everybody but the members and private servants of his own family, with whom he uses the language of his birthplace. Prose is written in Urdū, or in what is called High Hindī, which is identical with Urdū in grammar, but replaces all words of Arabic or Persian origin by Sanskrit. Written verse is usually in Urdū, or in the Braj dialect of Western Hindī, but Eastern Hindī is also used. The majority of the natives in all parts can understand Urdū and High Hindī, if pedantic Persian or Arabic words on the one hand, and Sanskrit words on the other, are avoided. In the hills Central Pahārī is spoken by 1 million people, and appears to be connected with the languages of Rājputāna. Of languages foreign to the Provinces, English, Bengali, and Nepālī, or Parbattia, are most

spoken, but the proportion of speakers of each of these to the total population is small.

Language statistics for 1891 and 1901 are given in the following table:—

	Chief vernaculars of the Provinces.								Other languages.
	Western Hindī.	Eastern Hindī.	Bihārī.	Nepālī, Parbattia, or Gorkhālī.	Central Pahārī.	Gipsy dialects.	Bhotiā of United Provinces.	Total.	
1891	45,881,968			18,035	836,694	77,374		46,814,071	90,720
1901	21,588,984	14,905,187	10,056,056	24,088	1,004,404	353	10,231	47,589,303	102,479

The most prominent characteristic of the Hindu caste system is that it divides the people into a large number of groups primarily distinguished by the fact that they are endogamous. Within the caste or tribe (which are distinguished by European students, as being based respectively on community of occupation, and on descent from a common ancestor or on common occupation of territory) are found other divisions, usually endogamous, which are sometimes further divided into exogamous groups. Where exogamous groups are found, a further distinction lies in the fact that these are often classified by social status, and a woman must, as observed above, marry into a group equal, and, if possible, superior, to her own. The Rājput, Thākur, or Chhattrī caste contains only exogamous groups, and the rule of hypergamy is here strictly observed, though the position of individual groups varies in different Districts. Intermarriage between members of the same endogamous division is prohibited, even where there are no exogamous groups, within five degrees on the mother's side and seven on the father's. The caste system is constantly undergoing a variety of minor modifications. Thus the Mochī who works only in leather has split off from the Chamār who works raw hides. Groups from different castes have united to form the Mallāh or fishing and boating castes, but each group remains endogamous. The Sādhs are an example of a more complete union, where different groups have intermarried and formed a new caste through the common tie of a new religious movement. Where hypergamy is in force, neglect of the principle lowers the division or family concerned, while, on the other hand, castes ambitious to rise adopt child-marriage and prohibit the remarriage of widows. A caste, the members of which are prospering, often claims to be considered as Brāhman or Rājput, much as a rich Englishman discovers that his ancestors came over with the Conqueror. Theoretically, the Hindus are divided into four main castes: the Brāhmans or priests, the Kshattriyas or warriors, the Vaisyas or traders, all of which are

called twice-born; and the Sūdras. Investiture with the sacred thread at the so-called second birth may be compared with the Christian rite of confirmation. According to native ideas the first three of the main castes mentioned above are Aryan, and the last of aboriginal or mixed origin. In practice, however, several castes claim rank alongside of those admitted to represent the first three main classes, and their claims are partially admitted, while many distinctions exist among the Sūdras. Thus twelve classification groups can be formed, of which three represent the twice-born and three more the castes allied to these, with a total of 10½ millions. The seventh group, with over 750,000, includes castes definitely held not to be twice-born though higher than Sūdras. The eighth, ninth, and tenth groups, with nearly 19 millions, include persons from whom the twice-born (or some of them) can take certain kinds of food, or can or cannot take water; while the other two groups, with 10 millions, include castes whose touch defiles a member of the twice-born castes, distinguished from each other by the fact that they do not or do eat beef. The largest single castes arranged in order of social precedence are Brāhman (4,706,332), Rājput (3,403,576), Baniā (1,332,432), Ahīr (3,823,668), Lodha (1,063,741), Kahār (1,237,881), Pāsī (1,239,282), and Chāmar (5,890,639). No other caste numbers a million. Variations in the distribution of different castes are noted in articles on Districts.

Contact with Hindus has produced some imitation of their customs among Muhammadans. Thus there is a tendency to form endogamous groups, chiefly marked in the case of converts who still preserve a tradition of their Hindu origin. While, however, converts often retain Hindu prohibitions based on affinity, which are stricter than the rules of Islām, families of pure foreign origin intermarry within very narrow circles. Among Hindus members of different castes will ordinarily not eat articles of certain kinds of food together; but the followers of Islām observe no such restrictions, save that food or water would not be taken from a sweeper, and very strict Muhammadans refuse to eat with Christians. Musalmāns may be divided into three classes: (1) the foreign tribes, Saiyid (257,241), Shaikh (1,340,057), Pathān (766,502), and Mughal (82,334). Many of these, especially the so-called Shaikhs, are certainly descended from converted Hindus. (2) Converts retaining Hindu caste names (2,233,486), the largest castes being Rājput (402,922), Behnā (356,577), Nai (219,898), Telī (207,863), and Darzī (161,298). (3) Occupational groups, also chiefly of Hindu origin (1,895,176), including Julāhā (898,032) and Fakīr (334,762).

The three main physical types are Dravidian, Mongoloid, and Aryan. The first is found pure in South Mirzāpur and Bundelkhand; but many castes in the eastern and central Districts show the broad nose and dark colour which characterize the type. In the Aryan type, which is common

among the higher castes, especially in the western Districts, the features are more finely cut, and in particular the nose is thin and the complexion fair. The majority of people show a mixture of these two types, the proportion of Dravidian blood increasing in the east. In the sub-Himālayan and Himālayan Districts the Mongoloid type is found. This is marked by a short head (the other two types being dolichocephalic), a broad nose, prominent cheek-bones, and a yellow colour.

In 1901, out of a total population of 47,691,782, Hindus numbered 40,691,818, or more than 85 per cent., and Musalmāns 6,731,034, or 14 per cent. The total of all other religions is less than 0·6 per cent., and this includes 102,469 Christians, of whom 68,841 are natives; 84,401 Jains; 65,282 Aryas; and 15,319 Sikhs. The Musalmāns dwelling in the Provinces are more prolific than the Hindus, and longer lived, partly no doubt because they are, on the whole, better off, enjoy a more liberal diet, form a large proportion of the total in the more prosperous western Districts, do not practise child-marriage largely, and allow remarriage of widows. They are, therefore, increasing faster than the Hindus; but there is no reason to suppose that any considerable number of persons are being converted to Islām at the present time. On the other hand, the Hindus lose by conversion to Christianity and the Arya Samāj.

The term Hinduism includes in these Provinces an immense variety of ideas and beliefs, which vary in character from systems founded on the deepest philosophical speculations to animistic tenets little advanced beyond those of the wild jungle tribes in Central India, though the persons who profess the latter stoutly advance a claim to be considered Hindus. The absence of dogma renders it impossible to embody the tenets of Hinduism in a definite creed; and the sanctity attached to Brāhmans and cows, which is perhaps the most prevalent distinguishing feature of the system, is not recognized by some classes universally regarded as within the pale. For convenience the Vedantists may be considered as the orthodox school, and their creed may be summed up as a belief in the uniformity of the nature of God, soul, and matter, the present world being an illusion caused by *māyā*. The so-called sectarian divisions of Hinduism have usually been formed by a tendency to recognize a personal God, and they may be grouped into those who especially regard Siva as supreme and those who render similar allegiance to Vishnu. But even among these there is a constant tendency to relapse into pantheism. No estimate can be given of the number of orthodox Hindus; but it is certainly not large, as the fundamental ideas are too difficult to be comprehended by the masses. In 1901 only 1,290,094 persons declared themselves as Saiva sectarians, and 2,571,232 as Vaishnavas. The majority of Hindus incline to a belief in a personal God; but this belief is very vaguely defined, and for the circumstances

of everyday life much more importance is attached to imploring the aid of benevolent minor deities, or averting the influence of demons, than to devotion to a supreme being. The doctrine of transmigration is firmly held by all classes of Hindus from the highest to the lowest, and the belief that a man shall reap as he has sown is an appreciable factor in the moral sanction; it is especially powerful in the more backward tracts of Kumaun and Bundelkhand.

The Arya Samāj, which was founded about 1875 in Bombay, has prospered in these Provinces, and its adherents in 1901 had almost trebled their number since 1891. They are found chiefly in the three western Divisions of Meerut, Agra, and Rohilkhand, and commonly belong to the higher castes. The distinguishing features of this reforming movement are monotheism, the rejection of the divine inspiration of all Hindu sacred books except the hymns of the Vedas, the prohibition of idol worship, and the discouragement of most of the ritual observed by Hindus. The Samāj also aims at social improvements, especially the spread of education, the raising of the age at which marriage takes place, the remarriage of widows, and the simplification of restrictions based on caste custom. A Hindu sect of recent origin called Rādhā Swāmī was recorded in the Census of 1901 as having more than 15,000 adherents, and its tenets are remarkable as showing some resemblance to the Christian doctrine of the Trinity, though it is evidently a development of the Kabīrpanthī sect of Vaishnavism. Both these reforming movements have been strenuously opposed by orthodox Hindus, and in particular by the Brāhmans, whose authority they threaten.

The two principal sects of Muhammadans in these Provinces are the Sunnis (6,430,766) and Shiahs (183,208), while Musalmān sweepers, who have a special cult, numbered 64,292. The most marked distinctions between Sunnis and Shiahs are in ritual, and in the refusal of the latter to recognize Abu Bakr, Omar, and Othmān as successors to the Prophet. Wahhābis are very few, and the sect founded recently by Ghulām Ahmad of Kādiān in the Punjab has made little progress.

A Roman Catholic priest from Bengal first visited Agra in 1578, and other missions followed, but were not very successful. Protestant influence commenced with the solitary conversion made by Henry Martyn at Cawnpore in 1810. The Baptist Mission Society entered the field in 1811, followed by the Church Missionary Society at Agra (1813), at Meerut (1815), and at Benares (1818). Native Christians have increased from 23,406 in 1891 to 68,841 in 1901, the increase occurring almost entirely in the American Methodist Episcopal Church, which commenced operations in 1859, and labours chiefly in the western Districts, its converts being mostly from low castes.

The whole of the Provinces is included in the Anglican see of

the Bishop of Lucknow, who resides at Allahābād. A Roman Catholic Archbishop has his head-quarters at Agra and a Bishop at Allahābād.

The statistics of the population belonging to the chief religions in 1891 and 1901 are given below:—

Year.	Hindus.	Musalmāns.	Christians.		Others.
			Total.	Natives.	
1891 . .	40,379,907	6,346,629	58,437	23,404	119,818
1901 . .	40,691,818	6,731,034	102,469	68,841	166,461

At the Census of 1901, 16,212,668 males and 7,095,539 females were recorded as actual workers, and 24,383,575 persons of both sexes as dependants. Of the former, 10,643,272 males and 4,493,314 females were supporting themselves, and also 16,247,729 dependants, by agriculture and pasture, so that these two groups of occupations are the principal means of subsistence of two-thirds of the population. Proprietary interests in land support 3,441,879 persons, while 22,997,560 are tenants and 4,362,774 are field labourers, about one-sixth being regular farm servants. About 3 million persons were shown as non-agricultural labourers and their dependents; 2,678,334 were supported by personal, household, or sanitary service; and 2,650,282 were engaged in the provision of food, drink, and stimulants, more than three-fourths of these being occupied with the provision of vegetable food. Of 1,890,129 persons dependent on occupations connected with textile fabrics and dress, 947,873 were supported by hand-weaving of cotton goods, and 318,984 more by tailoring and darning. The number of persons occupied with the preparation and supply of material substances of all kinds was 7,134,280. Of these, 76,015 were dependent on occupations carried on in factories, the principal classes being sugar refineries (31,973), cotton-ginning, cleaning, and pressing mills (13,806), spinning and weaving mills (1,480), printing presses (6,696), lac factories (4,942), distilleries (4,058), and indigo factories (3,997). The commercial population numbered only 366,545, while the professional classes numbered 622,184, of whom 228,986 were recorded as priests, ministers, &c., 40,016 as lawyers, 23,070 as medical practitioners without diploma, and 17,051 as midwives; as many as 606,870 persons are supported by ordinary begging, while 85,454 are religious mendicants. The number of females returned as actual workers is greater than the number of males in the case of field labourers, and is considerable in the case of grain-parching, oil-pressing, weaving and spinning of cotton (hand industries), basket-making, and general manual labour. In cities the number of female workers is only 30 per cent. of the number of males, as compared with 44 per cent. for urban and rural areas together.

The two principal meals are taken in the morning and evening, and consist of unleavened cakes called *chapātis*, made of the flour of wheat, barley, or millet (*bājra*, *jowār*, or *manduā*), according to the means of the consumer. With these are eaten vegetables and pulse cooked with clarified butter (*ghī*). Rice is often substituted in the central and eastern Districts, but is less used in the west, except by the well-to-do. Sweet cakes are eaten in the middle of the day or early afternoon, and often at the evening meal. Mutton and beef are universally used by the Musalmāns, and mutton by high-caste Hindus of the Saiva sects, and by lower caste Hindus when they can afford it. The poorest classes make their principal meal in the evening, and in the morning eat some parched grain or gram in the western Districts, barley or rice in the central and eastern, and maize everywhere. Mangoes and, where found, the *mahuā* flower (*Bassia latifolia*), form an important addition in the hot season. Potatoes are commonly eaten in the hills, and their use is spreading in the plains.

The characteristic article of dress for a male Hindu is the *dhoti*, consisting of a piece of cotton about 5 yards by $1\frac{1}{4}$, woven in one piece, which is wound round the waist, the width hanging below the knees and the ends being tucked in ; above this is worn a sort of coat or a shirt. The upper classes wear both shirt and coat, and the use of trousers is increasing among educated men, though the *dhotī* is still worn at home. In the hills rough woollen cloth is much used. The usual head-dress is a turban, often of large size in the west; caps are largely worn by the younger generation. Musalmāns wear trousers or drawers, tight below the knee and fuller at the waist. They button their coats to the left instead of to the right like Hindus and Europeans. Females not observing *parda* wear a *dhotī* in the east and south-west. It is wide enough to reach from the waist to the ankles, and is so long that one end can be brought over the upper part of the body and head, while a loose bodice is also worn, though not universally. In the east it is generally undyed; but in Bundelkhand red is a favourite colour. In the west a coloured petticoat is worn, with a very short tight bodice, and a sheet covering the head and upper part of the body.

In the hills, in Bundelkhand, and in parts of Muttra and Agra Districts stone is the ordinary building material. Elsewhere bricks, burnt or sun-dried, mud, and wattles are used. Burnt bricks are, however, a luxury. The ordinary type of house contains a small courtyard with a sitting-room opening from it, which is also the bedroom for the males, besides an inner room for females, and a few small store-rooms. In the Meerut and Rohilkhand Divisions the apartments of from ten to twenty families are often built round a large central court. In the submontane Districts, where rainfall is heavy, the walls of huts are of brushwood plastered with mud. In

the west flat roofs are used; but elsewhere houses are thatched or tiled.

Hindus cremate their dead as a rule. Ascetics are buried, and also children who die unmarried and persons dying of small-pox, while some of the lower castes always bury their dead. After cremation the ashes are thrown into some sacred river, if possible the Ganges; but the poor burn corpses very imperfectly and throw them half-consumed into a river or even a canal. Musalmāns always practise inhumation, and look on cremation as disgraceful. They also raise memorial stones or buildings, while Hindus do not, save in exceptional cases.

Children's games are usually marbles or forms of tip-cat; but cricket and football, especially the former, are becoming very popular in towns and villages where schools exist. Kite-flying is practised by both children and adults. Chess is played, with some variations from European rules; but a commoner game is *pachīsī*, a kind of fox and geese. Card games are not much played, but are said to be becoming more popular. Gambling with dice and more primitive appliances is chiefly confined to the lower classes. Pigeon-flying and fights between partridges or quails are popular. Shooting, as a sport, is practically confined to Gurkhas, Rājputs, and the better class Muhammadans; but there are professional hunting castes and gipsy tribes who trap vermin and small game for food. Theatrical performances have been revived within the last fifty years; but the performers are usually Bengalis or Pārsīs, and females rarely appear on the stage. Conjurers, buffoons, acrobats, and the like are common. The Hindus are very fond of recitations from their sacred books, especially the Rāmāyana, and of ballads about heroes of bygone days, while Musalmāns collect for readings on religious subjects. Private reading for amusement or instruction is exceptional.

Among Hindus, festivals largely take the place of other amusements. They celebrate the commencement of spring early in February, and six weeks later the Holī begins, degenerating among the lower classes into a saturnalia. In August the twice-born castes put on a new sacred thread, and all castes tie coloured threads round their wrists. The greatest festival of the year is the Dasahra or Rām Līla in September or October, when the story of the Rāmāyana is recited and acted during a week, the final triumph of Rāma being celebrated with many fireworks and much noise. In November the full moon of the month of Kārtik marks the harvest-home and commencement of winter. Many other festivals take place in different localities; and at the sacred places there are special days for bathing in river or tank, when the lower and middle classes combine pleasure with devotion. Gaily dressed crowds visit the booths in the fair, to make purchases and see peepshows and other small entertainments. The Muhammadans

commemorate the death of Hasan and Husain by carrying lath and paper models of tombs to a place known as Karbala near each town, where they are buried or thrown into rivers. Though the anniversary is one for Shiahs, the Sunnis join, and it is considered a holiday. The Id-ul-Fitr marks the end of Ramzān, the month of fasting, and the Id-uz-Zuha commemorates the sacrifice of Ishmael by Abraham. The death of the Prophet (Bāra Wafāt), and the day on which the destinies of mankind for the succeeding year are believed to be fixed (Shab-i-barāt) and prayers are offered for the dead, are also observed. The lower classes flock to the shrines of saints on certain days, being often joined by Hindus. At Jain festivals a striking feature is the carrying of images in elaborate cars.

Surnames are almost unknown. Some Brāhmans use a kind of title, such as Misra, Sukul, Pānde, &c., while Rājput and Jāt names end in Singh (= 'lion'). Opprobrious names are often given to avert ill-luck, such as Dukhī ('afflicted). With Musalmāns, Khān usually denotes a Pathān and Beg a Mughal; almost all names have a meaning, e. g. Abdur Rahmān ('slave of the Merciful'). The ordinary honorary titles are Rājā (with various degrees, Mahārājā, Rājā Bahādur, &c.) and Rai Bahādur for Hindus, while for Muhammadans Nawāb corresponds to Rājā, and Khān Bahādur to Rai Bahādur. The common affixes used in place-names are: *-pur*, *-pura*, *-purī*, *-nagar*, *-gawa*, *-gānw*, and *-shahr*, all meaning 'town' or 'village'; *-garh* or *-garhī* ('fort'); *-ganj* ('market'); *-sarai* ('inn'); *-pattī* ('share of land'); and *-ābād* ('inhabited' or 'settled by'). The first three (*-pur*, *-pura*, *-purī*) are also modified or contracted into *-oli*, *-auli*, *-aur*, *-auri*, and *-aula*.

Agriculture.

The soils of the Provinces fall naturally into three main groups: the valley soils of the Himālayas, the main alluvium, and the Central Indian alluvium. In the Himālayas, small patches of cultivation are to be found in the valleys and on the hill-sides where the ground is sufficiently level. The soils are of local origin, and their composition varies with the nature of the rocks from which they have been formed. The second group, the main alluvium, includes the greater portion of the Provinces, stretching from the Himālayas on the north to the Jumna on the west and south, and extending south of this river over a belt of varying width. The soil in this tract has been brought down mainly from the Himālayas, but no specific account can be given of its origin. The fluvial action which deposited the soils must have effected the more or less complete intermixture of the water-borne detritus; and the many differences between one soil and another lie more in the average size of the particles than in their chemical composition, even the soils known conventionally as clays or heavy loams containing a large preponderance of silica in a state of minute subdivision. The local

differences in soils may be attributed to the sifting action of the water from which they were deposited, the deposits varying largely with the velocity of the current. From the chemical point of view, the great bulk of the alluvium contains adequate quantities of lime, potash, and phosphoric acid. The amount of nitrogen present at any one time is small when judged by European standards; but there is reason to believe (though the matter has not yet been fully worked out) that the process of nitrification is much more rapid than in colder climates, so that the small supply is more often renewed. The classification of soils recognized by the agricultural community is sand (*bhūr* or *baluā*), loam (*dumat*, *doras* or *rauslī*), and clay (*matiār*). A light loam which prevails over large areas is known as *pilia* or *pilota*; while the stiffest cultivable clays, suitable only for inferior rice, have various local names. The heaviest clays constitute the soil known as *ūsar*, which is impervious to water and cannot be tilled by the simple methods at the ordinary cultivator's disposal: some *ūsar* tracts have the further disadvantage of containing such quantities of sulphate and carbonate of soda as to render cultivation out of the question without measures of reclamation which are beyond the means of the people, and the permanent efficacy of which is still uncertain. A cross classification of soils, depending on the distance from the village site, is recognized over the greater part of the Provinces, the thoroughly manured home lands (*goind* or *gauhān*) being distinguished from the outlying fields (*bārha* or *pālo*), while in some localities a middle zone (*manjhār* or *miyāna*) is also distinguished. This classification disappears towards the north and west of the plain, where current agricultural practice requires that the manure should be distributed over the whole village area and not concentrated on the fields nearest the site.

The soils of the Central Indian alluvium, found principally in the BUNDELKHAND Districts and derived mainly from the denudation of the Central India plateau, differ more widely in composition. The most characteristic is the 'black soil' (*mār*) with its lighter variant (*kābar*): it contains exceptional quantities of lime and sulphuric acid. The other soils in this region are a light loam (*parwā*) resembling in general character the soils of the main alluvium, and a gravelly soil (*rākar*) which is ordinarily very inferior.

The conformation of the surface in the hill Districts varies from place to place, the minute fields being terraced wherever the slopes are sufficiently gentle to allow of it. The main alluvium slopes generally from the north and west; its flatness is broken by occasional sandhills, by depressions which form more or less adequate drainage lines, and by the broad valleys of the larger rivers, often several miles in width, with the shifting river-bed occupying a comparatively small portion of the valley. The Central Indian alluvium is broken, especially

towards the south of the region, by abrupt rocky hills, while the plains are scarred by extensive systems of ravines running into the rivers.

Over the whole Provinces the monsoon sets in usually in June, and the air is more or less completely saturated with moisture till the close of September. The rainfall during this period varies with the locality, being greatest in the hills (50 to 60 inches); in the plains it decreases from east to west and also from north to south; thus the Gorakhpur and Benares Divisions receive about 40 inches, while the Agra Division receives on the average from 25 to 30 inches. The type of weather changes rapidly in October: the air becomes much drier, and rain occurs only as the result of storms travelling from the westward. The fall between October and February averages from one to five inches in different years. From March until June the weather is hot and very dry, and such rain as occurs is chiefly received from local thunderstorms.

The system of cultivation is determined by the conditions of the soil and rainfall just described. As soon as the first rain falls in June the land is ploughed and sown with crops, such as rice, millets, maize, and cotton, which thrive in a warm moist atmosphere with heavy rainfall. These are harvested at different periods from August to December, and meanwhile preparations are being made for cold-season crops which are sown in October and November. Wheat, barley, and pulses are the staples at this season, the first being usually, and the two latter occasionally, irrigated by artificial means. These crops are harvested in April; and the fields are usually bare until the rains set in, though in the east of the Provinces a small millet (*Panicum miliaceum*) is occasionally raised with irrigation, and in the canal districts indigo is commonly sown in April and May. Sugar-cane has a season of its own, being planted from January to April and harvested between the following December and March. The prevailing rotation is to grow a rains crop in the first year and a cold-season crop in the second. The crops sown, especially in the rains, are usually mixed, one or more pulses being sown with a large millet, while when a cereal is grown alone in the rains the spring crop next year will frequently include a pulse. On land which from its situation can produce only rice in the rains, a pulse is, where possible, grown in the cold season. Much of the manured land produces two crops in the year, and the practice of taking two crops a year off unmanured land is spreading as the pressure on the soil increases. The most remarkable feature of the system of cropping is the extent to which plants of the order *Leguminosae* enter into the rotations adopted; the system has so developed as to secure a frequent renewal of the supply of nitrogen assimilated from the air by certain micro-organisms which dwell on the roots of plants of this order.

In the Himālayan tract there are usually two harvests in the year. Ordinarily rice and *manduā* (*Eleusine coracana*) are sown in April or May and reaped in September; while wheat, barley, mustard, and pulses are sown in November and reaped in April. But the periods vary with the altitude. In very high altitudes the spring crop does not ripen till August. On the low, warm, and irrigated lands rice and wheat are grown in rotation during the year. On the higher, unirrigated lands there is usually a two years' rotation of rice, wheat, and *manduā*.

In Bundelkhand the system of cultivation is less varied than in the great plain: there is very little irrigation, and it is not usual to take two crops in the year. The autumn crops are mainly the great millet, cotton, and some of the smaller millets: in the winter the small pulse known as gram or *chanā* (*Cicer arietinum*) is almost universally grown. Formerly large areas were under wheat; but the growth of this crop has fallen off to a great extent since the losses by rust in 1893 and 1894. Another serious loss has been the abandonment of the cultivation of *Morinda tinctoria*, which was widely grown for the scarlet dye (*āl*) which it yields, and which involved such thorough cultivation as to benefit the land materially. The competition of artificial dyes has now rendered the production of *āl* unprofitable.

Nearly 32 million persons were returned in 1901 as dependent on pasture and agriculture, or more than 66 per cent. of the total population. The actual workers included in these groups number 44 per cent. of the male population of the Provinces and 20 per cent. of the female. In addition to these, out of 7·9 million workers who declared their principal occupation to be unconnected with the land, nearly 700,000 recorded agriculture as a subsidiary occupation. Some 23 millions, or about 49 per cent. of the total, were dependent on cultivation as distinct from proprietary rights, and more than 4 millions or 9 per cent. on agricultural labour, one-sixth of these being regularly employed farm servants and their dependants. Women and children take a great part in agricultural labour. In the totals for the Provinces the number of female workers is 44 per cent. of the males, while in the case of agricultural labour it is 80 per cent. Non-workers or dependants, who include chiefly women and children, form 51 per cent. of the total population, but only 41 per cent. of the population supported by agricultural labour.

The staple food-grains are rice, wheat, gram (*Cicer arietinum*), barley, *jowār* (*Andropogon Sorghum* or *Sorghum vulgare*), *bājra* (*Pennisetum typhoideum*), and maize (*Zea Mays*).

Rice is grown during the rains, mostly in low-lying heavy clays. The crop is grown year after year on the same land, but a winter pulse is frequently taken in the interval between two rice crops. There

are many varieties; but the principal distinction is between those sown broadcast and those transplanted, the latter being the finer kinds. Rice is sown broadcast when the fields have been thoroughly soaked with rain; but in parts of Oudh it is sown as soon as the land can be ploughed, and the seed is left to germinate when sufficient rain falls. The finer varieties are sown in nurseries, and the seedlings are transplanted into fields on which water is retained by low embankments. Manuring of the fields is not usual; but the seed-beds are as a rule heavily manured. The early varieties are irrigated only in years of drought; the later varieties are usually irrigated after the rains have ceased, especially where there is a water-supply from canals. Rice occupies about 14 per cent. of the cropped area of the Provinces (6 million acres in 1903–4), and yields from 7 to 10 cwt. per acre. It is sown in June and July, and harvested from August to December.

Wheat is grown in the winter, usually after a rains crop in the preceding year, so that the land lies fallow for about eleven months, or for six months if the previous crop included *arhar*. It is frequently, but not always, manured with cowdung and house refuse, and is irrigated two or three times in the greater part of the Provinces. It occupies about 18 per cent. of the cropped area of the Provinces (8 million acres in 1903–4), and yields from 7 to 11 cwt. per acre. It is sown at the end of October or the beginning of November, and harvested in March and April.

Gram is grown in the winter, either alone or mixed with barley; it frequently follows rice or an early autumn crop in the same year. It is sown as a rule without manure or irrigation, but canal water is sometimes applied once or even twice in the western Districts. Altogether, gram covers about 13 per cent. of the cropped area of the Provinces ($5\frac{1}{2}$ million acres in 1903–4); the yield is not very well ascertained, but may be put at from 7 to 9 cwt. per acre.

Barley is usually grown mixed with gram or peas, and occasionally with wheat. When grown alone or mixed with wheat the rotation is commonly the same as with the latter crop, but when grown with pulses it frequently follows a rains crop grown in the same year. It is not as a rule manured, and is often grown on unirrigated land; when irrigated it gets as a rule only one or two waterings. Altogether it occupies about 10 per cent. of the cropped area of the Provinces, and yields from 8 to 12 cwt. per acre.

Jowār is a high-growing millet, sown when the rains break and harvested in November. It usually follows wheat or some other winter crop, and is seldom grown alone except for fodder. The usual mixtures are *arhar* and some of the creeping autumn pulses. The crop is not irrigated, though a watering may be needed to tide over a drought; it is frequently, but not universally, manured. It occupies

about 6 per cent. of the cropped area of the Provinces, and yields from 5 to 6 cwt. per acre.

Bājra occupies the same place in rotation as *jowār*, but is usually grown on the lighter soils and is much less frequently manured. It occupies on the whole about the same area as *jowār*; but its yield is slightly less (4 to 5 cwt. per acre).

Maize is one of the earliest rains crops sown; in canal tracts it is sown some time before the rains break. It is never irrigated after the rains have begun except in times of actual drought. Manure is usually applied. The crop is grown after almost any winter crop, and having a short season of growth (it is harvested in August) is usually followed by a winter crop in the same year. It occupies nearly 5 per cent. of the cropped area of the Provinces (2·2 million acres in 1903–4). The out-turn is ordinarily put at from 8 to 10 cwt. per acre; but this estimate is frequently exceeded.

The most important subsidiary food-crop is *arhar* (*Cajanus indicus*), which is almost universally sown mixed not only with *jowār* and *bājra* but also with cotton. It is sown when the rains break, and when the earlier crops have been removed *arhar* alone occupies the field till the end of April; its special importance in rotation is due to its value as a 'host plant' for the nitrogen-fixing micro-organisms. It is rarely grown alone; when so grown its yield may be put at from 6 to 7 cwt. per acre.

Numerous small millets are grown in the rains, with the object of replenishing the food-store at the earliest possible moment; they mature usually by the end of August. The most important are *maruā* or *manduā* (*Eleusine coracana*), *sāwān* (*Panicum frumentaceum*), and *kodon* (*Paspalum scrobiculatum*). Taken together, these occupy 5 per cent. of the cropped area; the yield of *maruā* is 9 to 10 cwt., of *sāwān* 6 to 7 cwt., and of *kodon* 7 to 9 cwt. per acre. *Manduā* is the principal food-crop of large tracts in the Himālayas. The creeping pulses—*mūng* (*Phaseolus Mungo*), *urd* or *māsh* (*P. radiatus*), *moth* (*P. aconitifolius*), and *lobia* (*Vigna Catiang*)—are as a rule grown with *jowār* and *bājra*, though *urd* and *moth* are also sown alone, the former on better, the latter on poorer, soils. These pulses are never irrigated and rarely, if ever, manured; their yield varies from 3 to 7 cwt. per acre, *moth* (the coarsest grain) being the heaviest crop. The winter pulses, besides gram, are peas, *masūr*, and *kisāri*. Two species of pea (*Pisum sativum* and *P. arvense*) are largely grown in the east of the Provinces, but are rarely seen in the north and west; they are usually irrigated once, but otherwise are grown like gram. The yield is sometimes as much as 10 cwt. per acre; but 8 cwt. is a more usual figure. *Masūr* or lentil (*Ervum Lens*) is grown mainly in the damper parts of the Provinces, usually after autumn rice; it is rarely if ever manured, and only occasionally irrigated. The out-turn may be put at from 5 to

6 cwt. per acre. *Kisāri* (*Lathyrus sativus*) is grown without manure or irrigation on the worst land in the south and east of the Provinces. Its out-turn has not been determined. Consumption of this pulse, except in small quantities, is known to lead to paralysis. An immense number of varieties of gourds, melons, and cucumbers are grown very widely in the hot season and early rains, forming a valuable addition to the food-supply. Further subsidiary crops are yams, buckwheat, *singhāra* (water-nut), and *brinjāl* (egg-plant). The total average production of food-crops is estimated at a little more than $13\frac{1}{2}$ million tons, and the surplus, after providing for food, seed, cattle, and wastage, at about $1\frac{1}{8}$ million tons.

The principal oilseeds are sesame or *til* (*Sesamum indicum*), several varieties of mustard or rape (*Brassica campestris* and *B. juncea*), linseed (*Linum usitatissimum*), and castor (*Ricinus communis*). *Til* is grown by itself as a rains crop on a large scale in Bundelkhand and in the submontane Districts; but all over the Provinces it is mixed with the ordinary rains crops, each cultivator sowing enough for his own needs. When grown alone it is not manured and yields only 2 to 3 cwt. per acre. The ordinary varieties of rape are almost universally sown in lines through the fields of wheat, barley, and gram. A variety named *lāhi*, grown alone in the submontane tracts, yields about 5 cwt. of seed per acre. Linseed is grown by itself in Bundelkhand and in the submontane Districts; in the rest of the Provinces it is grown as a border to wheat-fields or in lines through gram. When sown alone it frequently follows rice, or is grown with very little tillage on land that has been flooded during the rains. It is very rarely manured and irrigation is unusual. The yield is from 4 to 5 cwt. per acre. Castor is grown mainly as a border to sugar-cane or mixed with rains crops.

Cotton is by far the most important fibre, occupying 3 per cent. of the cropped area of the Provinces. It is grown as a rains crop, usually without irrigation; but where canal water is available it is sown with irrigation before the monsoon breaks. It is not usually irrigated later unless the rains fail. It is grown after a winter crop and is generally manured. The yield is from 1 to nearly 2 cwt. of lint (cleaned) per acre; but this estimate is very doubtful, as the lengthy period of picking makes it hard to calculate the out-turn. Hemp or *san* (*Crotolaria juncea*) is grown frequently as a border to other rains crops, but its cultivation as a sole crop is extending as it is an excellent preparation for sugar-cane. It is not manured or irrigated: the yield is about 7 cwt. of clean fibre per acre. Roselle hemp (*Hibiscus cannabinus*) is grown almost always as a border to other rains crops; it gives a softer, but weaker, fibre than the first-named plant.

The opium poppy (*Papaver somniferum*) is grown as a winter crop

with high cultivation, usually after maize or some other early rains crop. The land is heavily manured with cowdung, or a top dressing of crude saltpetre is used; irrigation is almost universal, and well water is preferred in consequence of the salts which it contains. The out-turn of crude opium is about 20 lb. per acre. A coarse tobacco is grown round most village sites; it flourishes in highly ammoniated soils and is mostly consumed locally. The out-turn is from 12 to 15 cwt. per acre.

Sugar-cane is a very important crop, occupying nearly 3 per cent. of the cropped area. There are three main races: the *ukh*, the *ganna*, and the *paunda* canes. The first are thin hard canes used only for sugar manufacture; the third are thick soft canes used mainly for chewing; while the *ganna* canes are used chiefly for manufacture, but partly also for chewing. The crop occupies the land for periods varying from twelve to eighteen or twenty-four months, according as it follows a spring crop, an autumn crop with a spring fallow, or a spring crop with a year's fallow. It is heavily manured, and only in low-lying lands is irrigation dispensed with. The out-turn of unrefined sugar varies from 15 to 25 cwt. per acre.

Indigo cultivation is rapidly declining. The cultivated area has fallen from 290,070 acres in 1886 to 140,834 in 1903-4. It is sown either in the spring or at the commencement of the rains. In the former case it is ready for cutting in August, in the latter a month later.

Among cultivated fruits are the following: mango (*Mangifera indica*), *mahuā* (*Bassia latifolia*), *jāmun* (*Eugenia Jambolana*), pomegranate (*Punica Granatum*), peach (*Prunus persica*), loquāt (*Eriobotrya japonica*), custard-apple (*Anona squamosa*), guava (*Psidium Guyava*), jack-tree (*Artocarpus integrifolia*), tamarind (*Tamarindus indica*), pineapple (*Ananas sativa*), plantain (*Musa sapientum*), shaddock (*Citrus decumana*), and several varieties of fig, melon, orange, lime, and citron. Vegetables are everywhere cultivated in garden plots for household use, and on a larger scale in the neighbourhood of towns. Among vegetables the following may be mentioned: the egg-plant (*Solanum Melongena*), potato, cabbage, cauliflower, radish, onion, garlic, turnip, carrot, yams, and a great variety of cucurbitaceous plants, including *Cucumis sativus*, *Lagenaria vulgaris*, *Trichosanthes dioica*, *Benincasa cerifera*, *Dolichos Lablab*, and *Trichosanthes anguina*.

The greater part of the Provinces is highly cultivated, and there is room for considerable extension only in the submontane tracts, which are steadily filling up. Cultivation fell off seriously in the Agra Division about the year 1888, owing to waterlogging caused by a cycle of years of heavy rainfall: the drainage system of the country was improved and cultivation has now recovered. Rust and drought in the past

decade caused a very serious decrease in the cultivated area of Bundelkhand, but cultivation is now again extending. In the rest of the Provinces the area tilled is not liable to violent fluctuations, but in any season it varies with the rainfall.

In a large part of the Provinces, seed is ordinarily selected for those crops which require only a small quantity to the acre, e.g. single heads of *jowār* and single cobs of maize are regularly set aside for seed. Selection for crops which require much seed (e.g. wheat) is practised only in the Meerut Division. New varieties of crops have not been introduced to such an extent as to affect materially the agriculture of the Provinces. Oats have secured a place in the rotation near military stations. Potatoes were first introduced in the hills and then spread, about 1839, to the plains; they are grown chiefly in the vicinity of the larger towns: Farrukhābād in particular is noted for this crop. The thick sugar-cane, grown near towns for sale for chewing, is believed to have been introduced from Mauritius. Vegetables are grown by market-gardeners near the towns where there is a European population; and large quantities of seed are purchased yearly from the Government gardens at Sahāranpur and Lucknow. Foreign varieties of many staples have been tried at various times; but, with the exceptions noted above, few have been successful. The present policy of the Agricultural department lies rather in the direction of supplying the cultivators with good seed of the kinds they know, or of kinds known in other parts of the Provinces; thus the soft white wheat of the Meerut Division is now being grown with satisfactory results on considerable areas in the south of Oudh.

The plough used by cultivators is substantially a wedge of wood with an iron cutter in front; its size depends on the strength of the local cattle. It stirs the soil without inverting it, and is well adapted to produce a thorough, but shallow, tilth. Where deep tillage is required, the land is usually dug up with a spade. In Bundelkhand a rough bullock-hoe (*bākhar*) is often used in place of a plough for breaking up the soil and eradicating weeds. For harrowing, a heavy beam or cylindrical roller or two parallel beams joined together are used; for weeding and hoeing, the hoe, spade, spud, or sickle is employed. The agricultural implements are of the simplest, and no improved implements offered by the Agricultural department have been accepted to any appreciable extent by the people. Iron cane-crushing mills were introduced as a commercial enterprise and immediately proved acceptable; they have now practically replaced their stone and wood predecessors.

Partly owing to lack of agencies for disseminating knowledge, and partly to the need of detailed study of agriculture in its local aspects as a preliminary to undertaking improvements, the Agricultural depart-

ment, while affording advice and assistance to a very large number of individuals, has not influenced the agriculture of the Provinces as a whole. Model farms are now being started in the Districts. The farm at Cawnpore is used solely for purposes of study and experiments; while the public demonstration farm at Meerut, and the small farms kept up by one or two landholders on lines suggested by the department, influence the cultivators only in the immediate neighbourhood.

The cultivation of tea was successfully established in the first half of the nineteenth century in Dehra Dūn and the Kumaun Division at Government gardens which were sold after ten years' working. The area under tea in 1903–4 was 8,300 acres. Fruit gardens were established at various places in the Outer Himālayas about 1870, and apples, pears, peaches, and apricots are grown successfully.

Loans are made under the Land Improvement Act (1883) or the Agriculturists' Loans Act (1884), the former being chiefly for wells, tanks, and occasionally protective works, and the latter for purchase of seed and cattle. Interest is charged at 6¼ per cent., but in time of famine and scarcity the interest is reduced or altogether remitted. The amounts advanced vary considerably, but loans for seed and cattle are usually treble those for improvements. In ordinary years the former vary from 2 to 6 lakhs and the latter from Rs. 70,000 to Rs. 2,00,000. In the famine year 1896–7 nearly 17 lakhs was advanced for improvements (8 lakhs free of interest), and nearly 23 lakhs for seed and cattle. During the ten years from 1891 to 1900, the advances averaged 2 lakhs and 6 lakhs respectively, while in 1901 the amounts were only Rs. 33,000 and Rs. 78,000. In 1903–4, 1·3 lakhs was advanced for improvements and 1·2 lakhs for seed and cattle.

In the cold season of 1900–1 preliminary inquiries were made as to the prospects of co-operative banks, but the movement is still in its infancy. A special officer was appointed towards the close of 1904 to commence organized operations. No reliable statistics are available to show the extent to which the cultivators are indebted. As in most countries, they work principally on borrowed capital, but in the Meerut Division a large proportion of the cultivators are practically free from debt. The village bankers are commonly professional money-lenders, but *zamīndārs* and well-to-do cultivators (e.g. Jāts in the western and Kurmīs in the central and eastern Districts) often do a large business. The advances consist largely of grain, which is lent nominally at 25 per cent. interest and sometimes 50 per cent., but this is increased by the method of account: the grain is lent when prices are high and the borrower is debited with the cash value, while it is recovered in kind at harvest time when prices have fallen. Advances are regularly made by sugar-refiners to cultivators of sugar and by indigo planters for indigo. A more important system of advances is that worked by

the Opium department, which distributed nearly 215 lakhs in 1903 for poppy cultivation, besides nearly a lakh for wells.

The only recognized breeds of cattle are found in the submontane tracts in the north, and in the Bundelkhand Districts in the south, in both of which areas there is sufficient productive land uncultivated to supply grazing for young stock. In the rest of the Provinces, where population is denser and the land is occupied by crops, pasture is so deficient that cultivators usually buy their working cattle at an age when they can be used at once. The cows are served by any bull that may be available, and no attempt is made to keep the breed pure. The cattle of Meerut and Rohilkhand are large animals, chiefly imported from the Punjab or Rājputāna, good bullocks costing from Rs. 150 to Rs. 200 a pair, and a cow from Rs. 20 to Rs. 40. Passing east down the Doāb, the type deteriorates. In Southern Oudh and the eastern Districts the name *dishta* or 'local' is applied to all cattle of no particular breed; they are very inferior and cost from Rs. 20 to Rs. 40 a pair. In the submontane tracts the best-known breeds are: the *panwār* in Pīlibhīt District; the *parehār*, *bhūr*, *khairīgarh*, and *majhra* in Kherī; the *bāngar* in Shāhjahānpur and Hardoī; and the *nānpāra* and *risiā* in Bahraich. The price of these sometimes reaches Rs. 250 a pair. In Bundelkhand the typical cattle are of medium size, hardy and active, and able to subsist on very scanty food. They find a ready market in the eastern Doāb and Southern Oudh, where grazing and fodder are scarce.

The only good horses in these Provinces are in the Meerut Division. The country breed has been improved by crossing with English and Arab stallions.

There are two kinds of sheep, the white and the black; the latter are the hardier of the two, but the former give finer and longer wool and better mutton. The superior breeds are found in the west, and the best of all across the Jumna. A good goat may fetch Rs. 12, a good sheep as much as Rs. 6; but ordinary prices are Rs. 4 and Rs. 2 respectively.

The only pasture-grounds are the forests in the sub-Himālayan and sub-Vindhyan tracts. Enormous numbers of animals are driven yearly into the Nepāl *tarai* during the cold and hot seasons. The better animals are entirely stall-fed, while the inferior bullocks belonging to poorer cultivators live chiefly on what they can pick up on the road-sides, on stubbles, and on barren or ravine land.

Large cattle fairs are held at many places in or near the breeding tracts and a few in the Doāb. Among the former, the best known are those at Batesar (Agra), Kosī (Muttra), Golā (Kherī), and Fakhrpur (Bahraich). The latter include Makkanpur (Cawnpore), Nauchandī and Garhmuktesar (Meerut). Trade in cattle is, however, mainly

carried on in the villages, by regular traders, who buy young stock at fairs or on the breeding grounds.

The prevalent cattle diseases are rinderpest, haemorrhagic septicaemia, anthrax, and foot-and-mouth disease. Surra and glanders attack horses, but are not very common. The operations of the Civil Veterinary department in respect of surra and glanders are regulated by the Glanders and Farcy Act (1899), and rules made under it. Veterinary assistants, paid by District boards, are employed in the treatment, suppression, and prevention of diseases. They also tour through the District, visiting villages, inquiring about diseases, and giving advice as to the best means of prevention, treatment, or suppression. There are about 43 veterinary assistants employed in these Provinces, and it is proposed ultimately to raise their number to 96, i.e. two for each District. The Veterinary Inspectors, besides supervising the work of the veterinary assistants, are also deputed to various Districts in connexion with serious epidemics. There were only three in 1904, but their number will ultimately be raised to nine, i.e. one for each Division.

Of the strip of land at the base of the Himālayas called the Bhābar alone can it be said that without irrigation there could be no cultivation, though it might be added that in the dry western tracts there would be little cultivation of value. Generally speaking, irrigation is required for certain crops in all years and for all crops in years of drought. Garden crops and hot-season crops require constant irrigation. Poppy and sugar-cane are irrigated many times on all except damp, low-lying soils; wheat is generally irrigated twice, sometimes three or four times. Nearly all crops are irrigated in canal tracts. Autumn crops, especially rice, are irrigated when there is a break in the rains, particularly where water can be obtained from canals or *jhīls*; and temporary wells are dug in large numbers in most places on emergency. In the heavier soils unmanured fields are irrigated; in the lighter soils only the manured fields as a rule.

The principal irrigation works of the Provinces are four canals, two of which, the UPPER and LOWER GANGES CANALS, are drawn from the Ganges, while the other two, the EASTERN JUMNA and AGRA CANALS, are drawn from the Jumna. These are all classed as 'major' works. The first three serve the Doāb from the southern part of Sahāranpur to Allahābād, and the Agra Canal irrigates in these Provinces the Districts of Muttra and Agra south and west of the Jumna. In 1904 these four systems included 1,383 miles of main channel and branches, out of a total of 1,551 in the Provinces, and 7,066 miles of distributaries out of a total of 8,081, while they irrigated about 93 per cent. of the area supplied by canals. In the south-west of the Provinces the Betwā and Ken Canals, protective works drawn from

the rivers of those names, supply parts of the Districts of Jhānsi, Hamīrpur, Jālaun, and Bāndā, while small areas in Jhānsi and Hamīrpur are irrigated from reservoirs which were made by damming up valleys many hundred years ago. The 'minor' works include some small canals in Dehra Dūn, Bijnor, Bareilly, Pīlībhīt, and Nainī Tāl.

Charges for irrigation from Government canals are levied by (1) occupiers' rates, and (2) owners' rates. The former vary according to the crop; and where it is necessary to raise the water the rates are usually half of those charged where the water can flow direct on to the land. On the four 'major' works and on the Betwā Canal the 'flow' rates vary from Rs. 2 per acre for autumn crops (excluding rice, indigo, and cotton) to Rs. 6⅔ for sugar-cane and rice, except on the recent extensions of the Lower Ganges Canal, where the highest rate is Rs. 10 for sugar-cane. On the Betwā Canal the rates are halved for certain soils, and a preliminary watering for spring crops which are not irrigated again is allowed at R. 1 for 'flow.' The rates are lower on other canals. Owners' rates, amounting to one-third of the occupiers' rates, are levied on the proprietors of all land in villages into which irrigation has been introduced since the last revision of settlement, and are thus a kind of charge for the improvement effected at the cost of Government. The rate is one-sixth for the Agra Canal in Muttra and Agra Districts, but no rate is charged on the Betwā Canal. The area irrigated is measured by an *amīn* (native surveyor) of the Canal department in company with the village *patwāri*, and a statement of the demand is sent to the Collector. The rates are collected by the *tahsīldārs* in the same manner as land revenue. Arrangements are often made by which the *lambardār* of a village collects the rates due from the tenants in that village, and receives fees for prompt collection.

The receipts from all canals increased from an average of 60 lakhs in 1881-90 to 80 lakhs in 1891-1900, and in 1900-1 and 1903-4 amounted to nearly 100 lakhs. Working expenses rose during the same decennial periods from an average of 24 to 30 lakhs, and were nearly 35 lakhs in 1900-1 and also in 1903-4. The percentage of net profits on capital outlay, including simple interest, has increased from 0·98 to 2·04 and 3·48. The Eastern Jumna Canal earned as much as 22 per cent. in 1903-4. The Betwā Canal showed a loss of 3·2 per cent. in the same year. The net profits from all canals in 1903-4 amounted to 63 lakhs, and, deducting interest on capital outlay, to 29 lakhs.

The only large artificial lakes used for irrigation are those in Jhānsi and Hamīrpur Districts, which were constructed under native rule, as ornaments to temples on their banks, by damming up valleys. These lakes cover an area of about 6,000 acres, and have 71 miles

of distributaries which irrigate about 2,400 acres. The irrigation channels from them are now maintained by the Canal department. The word 'tank' is usually applied in these Provinces to the very small basins excavated in level ground, which are referred to below.

Wells for irrigation are sometimes lined with brick, in which case they are called *pakkā*, and sometimes unlined, when they are called *kachchā*. The former are made by digging a hole and building a cylinder in it, which is sunk by weighting the top and excavating earth from the centre. *Kachchā* wells are partly lined, where they pass through sand, with basket-work, twisted bands of grass, *arhar* stalks, *jhau* (tamarisk), and occasionally wooden planks. Water is raised from the deeper wells in leathern buckets with a capacity of 18 to 25 gallons. The bucket is attached to a rope, passing over a pulley, drawn by bullocks which walk down a slope when drawing up the bucket. In the Meerut and part of the Agra Divisions two pairs of bullocks are used with a single bucket, one pair passing down the slope as the other pair returns. The Persian wheel is used only in parts of Jhānsi and Sahāranpur. In places where the water is less than 12 or 14 feet below the surface, especially in the sub-Himālayan Districts and the low land on river banks, a lever or *dhenklī* is used, consisting of a long pole supported on a pivot near one end. The pivot is fixed in two supporting pillars of mud or wood, and an earthen pot is attached by a rope to the longer end of the pole, while the short end is weighted with earth. In place of the *dhenklī* a pulley is sometimes used, over which passes a rope with an earthen vessel at each end. A *pakkā* well costs about Rs. 200 for a depth of 30 feet, if made for one bucket, and about Rs. 100 more for each extra bucket used. *Kachchā* wells may be made at rates varying according to the depth from Rs. 2 or Rs. 3 to Rs. 10 or Rs. 12. The area irrigated in a day by two men and a pair of bullocks varies from about $\frac{1}{6}$ acre at a depth of 20 feet to $\frac{1}{8}$ acre at 40 feet, and $\frac{1}{8}$ acre can be irrigated by two men working a *dhenklī* at a depth of 10 feet.

In the Benares and Gorakhpur Divisions, and in Eastern Oudh, the heavier rainfall and tenacity of the soil have led to the construction of small tanks of a few acres each, which are used for irrigation; where possible, the water in natural depressions and marshes called *jhīls* is also used. In the sub-Himālayan Districts small streams are dammed, and watercourses led off from them, and considerable works of this kind have been made by European landholders in Bastī and Gorakhpur which irrigate about 55,000 acres. The usual method of irrigation from tanks, *jhīls*, and rivers, as well as from canals where the water is below the surface level, is by the swing-basket. This is a long shallow basket of plaited strips of bamboo (*berī*) or leather (*banka*), with two strings attached to each end held by two men, who dip it in the source and

throw the water on a higher level. In the eastern Districts water is not always allowed to run direct on the land, but is scattered over it with a kind of wooden shovel. In rice land rain-water is carefully held up by small embankments in the fields.

Roughly speaking, in the Districts served by canals, half the area irrigated receives water from canals, and the greater part of the remainder from wells. In the Districts where there are no canals, wells serve from four-fifths to five-sixths of the irrigated area. In Bastī, Gorakhpur, Azamgarh, Sītāpur, Bahraich, Bāra Bankī, Fyzābād, Rāe Barelī, Sultānpur, and Partābgarh the area irrigated from tanks and *jhīls* varies from three-fourths to more than as much again as the area irrigated from wells. The area irrigated directly from rivers, as distinct from regular canals, is not important except in the submontane tract.

Fish are plentiful in all parts of the Provinces, as all the rivers and most of the numberless small tanks and lakes are well stocked. There is no control over river fishing, except in the case of a few streams and hill lakes which have been preserved. Landholders sometimes derive a certain amount of income from fishing rights in small tanks, and where this is considerable it is taken into account in assessing land revenue.

Rents, wages, and prices.

There are three common forms of rent: distribution of threshed grain, generally called *batai*; appraisement of the standing crops, generally called *kankūt*; and cash rents. There are unimportant local combinations of cash and grain rents in exceptional areas, and certain valuable crops carry special rates (*zabtī*). Generally the rents are the result of custom and competition (according as population is sparse or dense) under the general influence of legislation.

The arrangements for *batai* are extremely complicated, owing to the varying shares of the village servants and others in the grain-heap. In the main division the landlord usually gets one-third, two-fifths, or one-half; but privileges are given to high-caste tenants in many places, especially in Oudh, and to all tenants in backward tracts. Where population is sparse and tenants are in demand the share of the tenants is larger; as population fills up the share of the tenant decreases.

Kankūt is of two kinds. Under both the produce of the standing crops is estimated, with a small deduction for village dues, and the landlord's share is calculated, and either paid in cash (at a valuation slightly above harvest prices) or delivered in grain. The former system is called *darkatti*.

Sometimes *kankūt* is adopted for the autumn and *batai* for the spring harvest. This avoids delay in dividing the principal food-crop,

and in the case of *darkatti kankūt* arrears can easily be realized in kind in the spring. Sometimes there is a fixed rate of so much grain in weight per *bīgha*. Sometimes (as along the Nepāl boundary) there is a system under which a low cash rent is fixed, deductions being made for failure in the harvests.

Batai is an unprogressive and wasteful system. It involves on the one hand delays, injurious to the produce and vexatious to the tenantry, and on the other hand pilfering by the tenantry on large estates. *Kankūt* involves uncertainty of estimates as well as uncertainty of season, and is open to abuses. There is a well-known saying of Alamgīr: *Batai lutai; kankūt badast-i-langot-bandha; jama khūb ast.* '*Batai* spells robbery of the landlords; *kankūt* puts power in the hands of low fellows; cash rents alone are satisfactory.' This is true to-day. In backward and precarious tracts, and where the tenantry are poor, grain rents seem to be necessary; but as population fills up, cash rents take their place. Whether or no money rents date from the increase in imports of silver into India, it is a fact that now the main agent of conversion is the growth of population. The cultivation of produce-rented villages is inferior. The cultivators have little inducement to work their fields fully, as the landlord will reap a large portion of the resulting produce. As long as the holding is large, the cultivator secures a fair sustenance on careless cultivation. When the holding is small, intensive cultivation becomes necessary. As the holdings decrease, cash rents are imposed. They represent a reduction in the share of the produce, but they are profitable in the long run to the landlord. Landlords often reduce holdings before they convert to cash rents, or even before enhancing existing cash rents. On the whole, produce rents are steadily giving way to cash-rents.

Cash rents depend on many historical circumstances: the state of prices and degree of prosperity of the tenant at the time of conversion, the character of the landlord, and so on. Over large areas the general level of the cash rents undoubtedly follows the soil; but in individual villages the rates yield to many cross influences, of which the following are natural and important:—

(*a*) *Caste.*—High-caste tenants are usually privileged. In Oudh and the eastern Districts the privilege may be as much as 4 annas in the rupee (one-fourth). In the western Districts it is less or even non-existent, particularly where Muhammadan invasion or settlement has strongly influenced tenures.

(*b*) *Circumstances of the landlord.*—The owners of large estates are more generous to their tenants than small proprietors, who indeed are almost compelled by their poverty to exact the uttermost farthing. The difference is particularly marked in Oudh, where the rents of *talukdārs* are about 20 per cent. lower than those of poorer proprietors.

(*c*) *The pressure of population.*—The real determinant of rental incidence is, however, the pressure of the population as evidenced by the demand for land. When land is in demand rents steadily rise, and holdings as steadily decrease in size. Intensive cultivation seems to repay the tenants, who are by no means worse off where their holdings are small. Arthur Young's theory that a rising rental stimulates industry and so produces prosperity finds much support in the economic phenomena of these Provinces.

Prices of course affect rents where land is in demand, but only to a limited extent. The natural process of rent enhancement is not to raise rents all round, but to raise the rents of the inferior towards the rates of the superior lands. No feature of the rental economy of these Provinces is more marked than the resolute refusal of the people to admit that a rise in prices is a ground for enhancement of rent. In many tracts where rents are raised, the enhancement takes the form, not of a rise in the rate per *bīgha*, but of a reduction in the size of the *bīgha*. Prices have absolutely no effect on rent rates in backward tracts where population is thin; their only effect is to influence the area under cultivation. Where population is dense rents rise independently of prices; but in the long run prices have some influence. Elaborate inquiries between 1870 and 1880 showed the extremely loose connexion between prices and rents.

Legislative action has disturbed the natural development of rent chiefly by arresting enhancement of the rents of occupancy tenants. The rents of occupancy and non-occupancy tenants in rupees per acre compare as follows:—

	Division.								Province.		
	Meerut.	Agra.	Rohilkhand.	Allahābād.	Benares.	Gorakhpur.	Lucknow.	Fyzābād.	Agra.	Oudh.	United Provinces.
Occupancy rents	4·7	4·2	3·9	3·9	3·9	3·7	2·6	2·9	4·1	2·6	4·0
Non-occupancy rents	6·9	4·8	4·0	3·1	3·4	3·4	5·5	5·5	4·2	5·5	4·7

Although in theory occupancy tenants in the Province of Agra are not privileged as regards the rate of rent, the difficulties thrown in the way of enhancement by the law and the action of the courts have kept occupancy rentals low in the Meerut and Agra Divisions, particularly where canal-irrigation is not used. Some allowance has, however, to be made for the fact that the same tenant sometimes holds under the same landlord in both occupancy and non-occupancy right, paying for the latter in a joint account an enhancement which ought to have been

laid partly on the former. In Oudh occupancy tenants are a small privileged body of ex-proprietors. The Agra law puts no limit on enhancement except the market rate. The Oudh law protects every tenant (not being an occupancy tenant) from enhancement for seven years, and at the end of that period permits enhancement of only one anna in the rupee ($6\frac{1}{4}$ per cent.).

In the west of the Provinces each field often bears its own rent; in the east and in almost the whole of Oudh the rents are lump rents on the holdings. Where the natural soils vary greatly, the rents tend to follow the natural soils. Where the soils are fairly homogeneous, rents vary chiefly according to the distance of the fields from the village site. The fields near the village nearly always pay high rents; they receive more attention, getting better cultivation and manure than the outlying fields. In the Meerut Division, owing to careful cultivation, the position of fields is of less importance than the quality of their soil.

The all-round average incidence of the rental of non-occupancy tenants given above represents the average rent for average crops. Rents sometimes vary in the same villages from R. 1 in outlying poor soil to Rs. 100 per acre in rich garden cultivation near the site. Generally rents (in rupees) may be said to range as in the table below:—

	Division.							Oudh.
	Meerut.	Agra.	Rohilkhand.	Allahabad Doab.	Allahabad Bundelkhand.	Benares.	Gorakhpur.	
First-class land near village site	15·0	11·0	10·0	12	4	12	10·0	15·0
Poor outlying land . . .	2·5	1·5	1·5	2	1	2	1·5	1·5

Within and beyond these limits there are, of course, infinite variations.

Tobacco, poppy, sugar-cane, and garden-crops pay special rates, which range from about Rs. 5 or even less per acre in the submontane Districts to Rs. 150 per acre near large towns, where night-soil and sweepings are available as manure. Cotton, hemp, &c., pay special rates, but these differ but little from those of ordinary land.

The returns of wages are known to be so inaccurate that detailed figures are misleading. In the greater part of the Provinces agricultural labourers are paid wholly or partly in kind. The wages, when paid in kind, are either a certain amount of grain, or, at harvest time, a certain proportion of produce from the field. Whether the wages are paid in cash or in kind, distinct variations can be traced in the amounts

received in different parts of the Provinces, the rates being highest in the west and lowest in the south and east. In the western Doāb the value of the daily wage ranges from 2 to 3 annas. It varies from $1\frac{1}{4}$ to $2\frac{1}{4}$ annas in the eastern Districts where population is congested, and in Bundelkhand where labour is inefficient. From very imperfect data there is some reason to think that these customary rates have an upward tendency, most marked near the large cities. The actual wage, however, constantly fluctuates, within the limits stated above, the determining factor at any particular season being the agricultural conditions then prevailing. Out of 2·6 million agricultural labourers in 1901, 400,000 were recorded as in permanent employ. These are usually fed and clothed by their employers and their wages scarcely vary. Village artisans are few in number; their services are remunerated by fixed payments which are more or less regulated by custom, and they receive certain amounts of grain or other food each harvest.

It is a matter of common knowledge that the wages of skilled labour have risen greatly as a consequence of the extension of railways and industries. Some information as to the rates paid will be found on page 206. Domestic service is more highly remunerated than it was ten years ago, and wages are steadily rising.

The history of prices in these Provinces is similar to the history of prices throughout India. During the first half of the nineteenth century there were violent oscillations according to the seasons in particular localities. A good crop meant low prices, a bad crop meant famine prices; and at distances which are now considered small there were most extraordinary variations[1]. In those early days, also, there were great discrepancies between harvest prices and market prices. This state of things continued more or less until 1865. By that time communications had improved, and prices became steadier. There were still, however, marked variations in different places, and the difference between market and harvest prices also was considerable. A general rise in prices began in these Provinces, as elsewhere in India, about 1886 and 1887. The causes of that rise are still matter of discussion. A more remarkable feature has been the equalization of prices, which may be said to have commenced after the Mutiny, and to have been largely due to improved communications, especially railways.

Table V (p. 262) shows the variation in prices of staples in seers per rupee during the thirty years 1871–1900, the famine years of 1878, 1896, 1897, and 1899 being omitted. It will be seen that prices have

[1] An interesting account of prices will be found in Mr. T. Morison's article on 'The Instability of Prices before 1861' in the *Journal* of the Statistical Society, September 30, 1902.

risen steadily except in the case of salt, but the abnormal conditions of recent years vitiate any definition of the present tendency or prediction as to the probable course of prices generally. In 1904 prices were easier than they had been for many years. The highest prices known within the previous thirty years were in 1897, when the weight in seers of grain to be purchased for a rupee was: wheat 9 to 10, *jowār* 11 to 13, gram 9 to 10, barley 11 to 13, and rice 8 to 9. The striking feature in a famine year is the approximation of the prices of the inferior grain staples to those of the better class.

The most prosperous parts of the Provinces are the Meerut and Kumaun Divisions. In the latter, there is no such individual as a landless day-labourer, while in the former the canal system ensures the cultivation of large areas, even in a year of drought, and thus provides a constant demand for labour. The standard of comfort is lowest in the eastern Districts, where the pressure on the soil is enormous, and in BUNDELKHAND, where the vicissitudes of the seasons cause excessive variations in the area cultivated. There is little difference in dress between the small cultivator and the labourer, except that the clothes worn by the latter have to last longer, and he has nothing warm in the cold season except a patchwork quilt of rags. The houses of both classes are of mud, but the cultivator will have several rooms round a small courtyard, while the labourer and his family live in a single room. No furniture is used by these classes beyond a bedstead and large jars or receptacles made of mud which hold clothes or grain, and the labourer generally lacks even these. The cultivator has a number of brass, copper, and iron cooking vessels worth Rs. 5 to Rs. 10, no table utensils being required; but the labourer has to be content with one or two. In the matter of food the cultivator can afford vegetables and superior staples, while the labourer has to live on the grain he has received as wages, or the cheapest available. A Musalmān will have fewer cooking utensils than a Hindu, but will also own a few plates and cups of rough glazed pottery. In the case of a clerk earning, say, Rs. 40 a month, the standard of living is distinctly higher. His house is usually of brick, and costs Rs. 2 to Rs. 4 a month instead of being rent free. The furniture includes two or three cane stools or chairs, occasionally a table, and some wooden boxes for clothes. The ground is covered with a small cheap carpet, and a few rugs are used for sitting on and as bedding; while the cooking utensils are worth Rs. 20 to Rs. 40. Small payments of Rs. 1 or Rs. 2 a month are made for the services of sweeper, water-carrier, barber, and washerman, instead of these being village servants. A clerk may spend from Rs. 12 to Rs. 30 in a year on his own clothes, which are of finer quality than those of the cultivator, and tend towards an imitation of the European style.

Forests.

[1] The forests in the United Provinces may, broadly, be divided into the upper, middle, and sub-Himālayan, and those situated in the plains.

The first lie mainly in the Jaunsār-Bāwar *pargana* of Dehra Dūn District, in the tracts leased from the Tehrī State, and in the protected forests in the higher hills of the Kumaun Division. The most important species are *deodār* (*Cedrus Libani*), from 6,000 to 8,500 feet elevation; *kail* or blue pine (*Pinus excelsa*), 6,000 to 8,500 feet; *rai* or spruce (*Picea Morinda*), 7,000 to 11,000 feet; *morinda* or silver fir (*Abies Webbiana*), 8,000 to 10,000 feet; yew (*Taxus baccata*), 6,000 to 10,000 feet; together with oaks, maples, and various other broad-leaved species. The box-tree (*Buxus sempervirens*) also occurs in a few localities, though in no very great abundance.

The next class occupies the middle slopes and valleys in Jaunsār-Bāwar, the Tehrī leased tracts, and the Kumaun Division. The most important species are the *chīr* or long-leaved pine (*Pinus longifolia*), 2,000 to 6,500 feet, which is found unmixed over very large areas; oaks, of which the commonest is *Quercus incana*; *Pistacia integerrima*, a very valuable furniture wood, but rare; and the hill *tūn* (*Cedrela serrata*).

The third division extends in a continuous belt along the lower hills from the Jumna on the west to the Sārdā river on the east, and thence into Bengal and Assam. These forests for the most part consist of *sāl* (*Shorea robusta*), associated with a relatively small proportion of other trees, of which the most important are—*Terminalia tomentosa* and *T. Chebula*, *Adina cordifolia*, *Anogeissus latifolia*, *Lagerstroemia parviflora*, *Acacia Catechu* (*khair*), *Dalbergia Sissoo* (*shīsham*), *Cedrela Toona*, *Eugenia operculata* and *E. Jambolana*, *Schleichera trijuga*, *Ougeinia dalbergioides*, *Albizzia procera*, *Mangifera indica* (mango), and *Sterospermum suaveolens*. *Sāl* of marketable value occurs in the outer hills up to an elevation of 3,000 feet, but usually ceases to be the predominating species above 2,000 feet. Bamboos (*Dendrocalamus strictus*) are also found on the lower hills, mixed with *sāl* and other species named above, but attain their greatest development between the Ganges and Kosi rivers. Bamboos also occur in the mixed forests of Bundelkhand.

The plains forests lie below the foot of the Himālayas, between the Jumna and the Gandak rivers, attaining their greatest width in Oudh. They comprise large tracts of pure *sāl* in the better-drained portions, *khair* and *shīsham* on the land adjacent to rivers, and intermixed with these areas containing *sāl*, *Adina cordifolia*, *Terminalia belerica*, *Bombax malabaricum*, *Albizzia*, *Odina Wodier*, *Lagerstroemia parviflora*, *Zizyphus Jujuba* and *Z. xylopyrus*, *Mallotus philippinensis*.

[1] From a note by Mr. J. W. Oliver, Indian Forest Service.

Holarrhena antidysenterica, &c. The forests in Bundelkhand yield only small timber suitable for local requirements. *Bassia latifolia* (*mahuā*), *Buchanania latifolia*, and *Diospyros tomentosa*, which are valuable for their fruits and flowers, are common all over the country.

For administrative purposes the forests are divided into three circles, each under the control of a Conservator[1]. These, again, are subdivided into divisions, under Deputy, Assistant, Extra-Deputy, and Extra-Assistant Conservators; and the divisions into ranges under the charge of Rangers or Deputy-Rangers, assisted by beat officers (foresters and forest guards). The Imperial Forest School at Dehra Dūn has been established since 1880 for the education of the Provincial and Upper Subordinate services of India and Burma; students from Native States and private students are also allowed to attend. The forests of the School Circle, one of those mentioned above, have been specially set apart for the education of the students. In 1906 a scheme was sanctioned to provide a research institute in connexion with the school.

The forests in 1904 were classified as follows:—

	Central Circle.	Oudh Circle.	School Circle.	Total.
	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.
Reserved forests	1,888	1,292	715	3,895
Leased ,,	...	...	153	153
Protected forests managed by the Forest department	30	...	...	30
Protected forests managed by District officers	9,363	...	...	9,363
Unclassed forests	30	34	13	77
Total	11,311	1,326	881	13,518

The leased forests comprise 141 square miles of *deodār* and *chīr* forests leased for a term of twenty years from the Tehrī State on payment of a rent equal to 80 per cent. of the net revenue; and 12 square miles held on perpetual leases at a fixed annual rent from the Thākurs of Rawain and Dhādi, who are feudatories of the Jubbal State in the Punjab.

The 'reserved' and leased forests are, with the exception of those in Bundelkhand and a few outlying areas, all managed in accordance with sanctioned working-plans under various systems of high forest management, except where there is a large demand for small timber and poles, in which case the systems of coppice and coppice with standards have been adopted. The small areas not under working-

[1] In 1905 the Director of the Forest School, Dehra Dūn, ceased to exercise administrative powers, and the three circles were redistributed into two, called respectively the Eastern and Western.

plans are worked under annual plans of operations. In nearly all forests the quantity of timber that may be removed annually is marked and sold by auction to contractors, who pay either a lump sum for the whole produce of the *coupe*, or a lump sum *plus* a royalty on the quantity of produce removed, the object in the latter case being to induce the purchasers to remove inferior timber as well as the better classes. Bamboos are disposed of under the same system, the blocks being usually worked every second year. Grass and minor produce are farmed out to contractors over defined areas. Grazing is allowed at certain rates up to a fixed maximum per head of cattle in such blocks as have been specially appointed by the forest settlements for this purpose. Exploitation of timber by Government agency is practised on a large scale only in the *deodār* leased forests, where, owing to the necessity of employing special means of transport, such as slides, tramways, and sledge roads, with which the ordinary contractor is not familiar, this form of working is more economical. Departmental working is also employed for the supply of fuel and timber to cantonments in the hills.

The relations of the Forest department with the people are controlled by the revenue officers with the Commissioners at their head, and in the event of the Commissioner and Conservator differing, the subject is referred to the Local Government for decision. The surrounding population generally live on very good terms with the Forest department, from which they derive many substantial benefits. The rights and privileges of the people in regard to forest produce and pasture are regulated by the various forest settlements, and most of the villagers in the neighbourhood of the forests obtain an abundant supply of fuel, poles, grass, and grazing, either free or at privileged or agricultural rātes. They also furnish most of the labour employed by the department. In some cases, where there are no rights and there is a demand for produce in small quantities, the purchasers of *coupes* are bound under their contracts to sell the produce extracted at fixed rates to any local consumer who may require it. The value of produce given away free and the loss on produce sold at reduced rates amounted in 1902–3 to nearly 2 lakhs of rupees.

The 'protected' forests comprise the whole of the unmeasured lands in the hill *pattīs* in Nainī Tāl, Almorā, and Garhwāl. The more populous portions carry but little forest, but elsewhere there are good forests of *chīr*, oaks, and other species, with fir and spruce at the higher elevations. With the exception of 30 square miles under the control of the Forest department, these forests are administered in the interests of the people by the District officers under rules sanctioned by Government. The revenue derived from the sale of produce to public departments and traders, and from grazing dues

is credited to the Forest department, the expenditure being debited to the same head. The annual revenue averages about Rs. 33,000, and the expenditure Rs. 17,000.

There are no areas specially set apart as fuel and fodder reserves, the wants of the people being met generally from areas left open under the forest settlements for the exercise of such rights. In other cases provision for the necessary supply is made in the working-plans. Under the orders of Government the forests may be thrown open to the people in times of scarcity and drought, for the free extraction of edible produce, and to free grazing or grazing at reduced rates for those who enjoy no rights under the forest settlements, the open areas being utilized to their full extent, and the closed portions also thrown open, if necessary, in seasons or localities of exceptional distress. Statements showing the pasturage available in the forests are drawn up annually in accordance with the famine code and submitted to the Director of Land Records and Agriculture, who maintains registers of cattle and pasturage.

In 1904, out of a total area of 4,078 square miles of 'reserved,' leased, and 'protected' forests under the management of the Forest department, 3,211 square miles, or nearly 80 per cent., were under protection from fire, and the failures amounted to only 146 square miles, or less than 5 per cent. of the area under protection. The expenditure incurred was Rs. 62,000, or Rs. 19 per square mile protected.

The whole of the forests has been demarcated and mapped, with the exception of some inconsiderable areas recently acquired, which are now under survey.

The only plantations of a special nature are the Rānīkhet and Chakrātā orchards and nurseries. These have been maintained for many years with the object of promoting fruit-growing, which is now an assured success. Two small plantations of imported chestnut-trees were also established in 1900, in the Nainī Tāl and Jaunsār divisions.

The gross Forest receipts rose from an average of 13½ lakhs in 1881–90 to more than 15 lakhs in 1891–1900. They amounted to 15⅓ lakhs in 1901 and exceeded 22½ lakhs in 1903–4. The expenditure in the same periods has varied little, being about 9 or 10 lakhs yearly.

Mines and minerals.

Peat has been found in the Upper Doāb, and coal is known to exist in Southern Mirzāpur. In 1896 a mine was opened in what has been variously called the Kota or Singraulī-Jwālāmukhī coal-field; but the works were closed after 1,000 tons had been extracted, as the operations did not pay.

Iron and copper are found in the Himālayan Districts, and the mines were formerly of importance; but the increased difficulty of working

copper, as veins became exhausted, has led to the closing of most of the mines, and the ironworks are very small and supply only the immediate neighbourhood. In 1903–4 leases for mines worked after the native fashion were issued for eight iron mines and one copper mine; but the royalties collected amounted to only Rs. 116. Iron was once worked by a company at the foot of the hills near Nainī Tāl, but the operations were not a commercial success. A prospecting licence for a large area in Dehra Dūn has recently been granted, and an English company has obtained a mining lease for copper in Kumaun. Gold is obtained in minute quantities by washing in some of the rivers in, or near the foot of, the hills.

Limestone is found in the Himālayas, but is only used locally for making lime owing to the difficulty of transport. In most parts of the plains *kankar*, which is a form of calcium carbonate, is found in beds a few feet below the surface and is used for metalling roads and making lime. Usually the *kankar* is in small nodules, but sometimes it occurs in a more solid form and can be cut in blocks for building.

Stone is largely quarried in Mirzāpur District in what is called the Stone *Mahāl*, which extends over 160 villages with 9,529 quarries, of which 1,382 are working. The stone is a fine sandstone, largely used for dock-building, for municipal drains and private houses, while stone ballast is displacing *kankar* or nodular limestone on railways. Curry-stones, hand-mills, potters' wheels, stone vessels, and other articles are also made in the District and exported. The Stone *Mahāl* is Government property, but is worked by private individuals, who pay duty at rates varying from 4 annas per 100 cubic feet for ballast to 1 anna per cubic foot for cut stone. In 1903–4 the gross income from duty was Rs. 88,000 and the expenditure on staff and roads Rs. 46,000. Small quantities of granite have been obtained from Bāndā, Mirzāpur, and Almorā, of slate from Garhwāl and Nainī Tāl, and of soapstone from Jhānsi and Hamīrpur. Stone is also worked in Agra and Muttra Districts and in Bundelkhand, while it is used more commonly than brick in the Himālayan Districts.

There are no mines for salt in the United Provinces, but salt is sometimes manufactured on a small scale during the process of refining saltpetre, which is prepared from nitrous earth by lixiviation. The purified salt is chiefly consumed in the area east of Allahābād, and in parts of Oudh it is employed to adulterate imported salt. In Alīgarh, Agra, Etāwah, and Mainpurī the impure salt or *sitta* is used for curing dried meat for export to Burma. Salt is also used in the manufacture of soap, and for curing hides and skins. Carbonate and sulphate of soda are prepared, by indigenous methods, from the saline efflorescences called *reh*, which are found in barren land in many parts.

Cotton is ginned and spun with rude appliances as a home industry

all over the Provinces. Weaving is carried on in most Districts on hand-looms of simple construction. In 1901 the number of persons supported by industries in connexion with cotton was over $1\frac{1}{4}$ millions, of whom nearly 1 million were dependent on weaving, 140,000 on spinning, and 136,000 on cleaning, pressing, and ginning. The largest industry is in Azamgarh District, where there are about 13,000 looms; but there are also important centres in Fyzābād, Alīgarh, Etah, Muzaffarnagar, and Sahāranpur. The commonest production is a plain uncoloured material used for clothing, and often woven of the exact size required for a loin-cloth (*dhotī*) or sheet. Coloured fabrics, including checks and stripes, are also produced, and machine-spun yarn is preferred for these. Muslin is made in small quantities in Lucknow, Benares, Bulandshahr, Fyzābād, Jaunpur, Mirzāpur, and Rāe Barelī. The principal weaving castes are the Korīs (Hindus), who numbered nearly a million in 1901, and the Julāhās (Musalmāns), who were 900,000 strong. Both hand-spinning and hand-weaving have suffered from the competition of the mills, especially the former, but the rate of decline is said to have lessened during the last twenty years. Machine-woven cloth is better in appearance than the material produced by hand; but the very defects of roughness and unevenness in the latter make it preferred for quilts and the like, and it is more durable.

Arts and manufactures.

Experiments in the production of mulberry silk have been carried on for many years without much success. In Mirzāpur District wild cocoons of the *tasar* moth are collected, and worms bred from them by the jungle tribes. Since the famine of 1896 the out-turn has been only about 2 million cocoons, or half of the former production.

Benares is the chief centre of the silk-weaving industry, and in 1899 the capital invested in that District was estimated at 30 lakhs. Some work is also turned out at Agra and Farrukhābād, and in Azamgarh and Jhānsi Districts. At Benares the chief fabrics made are *kincob* (*kamkhwāb*) or brocade, which is adorned with gold and silver threads, and many varieties of piece-goods and articles of clothing. In Azamgarh mixtures of silk and cotton are more common, and good satin is also produced. Silk braid is made in many places. In 1901 there were 13,500 persons employed in silk manufacture, &c., of whom 12,300 were in Benares.

Embroidery in silk or cotton on muslin is called *chikan*, and Lucknow city is famous for this industry, which is carried on by the more respectable classes of poor people, especially Muhammadans. Handkerchiefs and other articles for personal use or wear are the chief productions, and the industry is probably increasing. Embroidery in gold and silver on velvet, silk, crape, sarcenet, &c., was formerly prepared for the native demand at Agra, Benares, and Lucknow, the out-turn being chiefly

saddle-cloths, covers for cushions, elephant-housings, caps, coats, and other articles of clothing. Slippers, table-covers, &c., are now produced for the European market.

In every District there is a small local trade in blankets. These vary in quality, the best being produced in Bahraich and Muzaffarnagar; but all are of coarse brown stuff, very different from the European style. In the hills many kinds of woollen cloth are produced in small quantities, almost entirely for local use. Goats' hair is made into ropes and sacking, and in the Himālayas and Mirzāpur into coarse cloth. In 1901 there were 50,000 persons supported by wool industries, but many of the persons recorded as sheep- and goat-breeders and shepherds (120,000) are also employed in blanket-making.

Cotton carpets or *darīs* are woven on a large framework, the warp being arranged horizontally. Stripes form the usual design, but other patterns are also made. The industry is carried on in every jail, and Alīgarh, Bareilly, and Agra Districts are especially noted for it.

The principal centre for the manufacture of woollen carpets is Mirzāpur, where a considerable number of factories are at work, including some under European supervision. There is also a large factory at Agra; and while the industry is carried on in many jails, the carpets produced at the Agra Central jail (annual production about 15,000 square yards) have the best reputation. Smaller quantities are made in Morādābād, Cawnpore, Bulandshahr, and Jhānsi Districts. In the case of woollen carpets the warp of cotton yarn is arranged vertically, and the carpet is made by placing ties of woollen yarn round every pair of threads, instead of weaving. Smaller rugs are also made both of cotton and wool; and felted articles of unspun wool, such as rugs, prayer-mats, horse-cloths, saddles, &c., are produced in many Districts, those made in Bahraich being the best.

The art of dyeing is practised in all parts of the Provinces, and is applied to cotton, wool, silk, and leather. Till within the last twenty years the dyes used were chiefly of vegetable origin; but the use of aniline and alizarine has increased enormously, and is fast driving out the older art. The cost of dyeing has thus been cheapened, and coloured materials are more used, though the dyes are fleeting. There is a considerable industry in cotton-printing. Three classes of cloth are used: English long-cloth for curtains, tablecloths, &c.; coarse country cloth for quilts and rough chintz; and a still stronger cloth for use in place of carpets. The preparation of the cloth by washing and bleaching takes several days, and patterns are then produced by stamping with a wooden die held in the hand. The art is most flourishing in the towns of Farrukhābād, Lucknow, Jahāngīrābād (Bulandshahr), and Jāfarganj (Fatehpur).

Personal ornaments for females are produced in great variety by the

ordinary *sonārs* or goldsmiths. They include necklaces, rings for the fingers and the nose, bangles, earrings, anklets, tiaras, &c., in gold or silver, sometimes ornamented with precious stones. The poorer classes wear rings, bangles, earrings, and anklets of brass or pewter. At Lucknow ornamental boxes, bowls, flower-vases, &c., are made of silver, adorned with *répoussé* work; but these are chiefly for the European market. Quaint figures of animals are made in Muttra District, of silver cast in a mould. Enamelling on silver and gold, and *bidrī* work, or inlaying silver in an alloy from which *hukka* pots, &c., are made, were formerly practised at Lucknow; but these industries have almost died out. Over 250,000 persons were returned in 1901 as supported by work in connexion with gold, silver, and precious stones, while the Sonār caste numbered 284,000.

The blacksmith is usually a village servant, who makes and repairs the simple agricultural implements in common use, and is partly paid in kind. Benares, Mirzāpur, Cawnpore, and Farrukhābād are important centres for the manufacture of iron waterpots and iron dishes for domestic use. Rough cutlery is also made at Hāthras and Cawnpore. In 1901, 300,000 persons were returned as supported by the iron industry.

Household vessels are almost exclusively of metal. Hindus use brass or some other alloy, while Musalmāns use copper vessels, which are periodically tinned. The chief centres of manufacture are Mirzāpur for ordinary Hindu articles, and Farrukhābād and Lucknow for Muhammadan utensils. More ornamental work is produced in Benares, such as idols, sacrificial implements, shields, bells, embossed panels and trays, besides goods for the European market. There are less important centres for similar work in the Districts of Hamīrpur (idols), Muttra (idols), Jhānsi (toys and brass vessels ornamented with copper), and Etāwah (sacrificial accessories and musical instruments). The ornamentation is partly beaten out with punches and partly engraved. In Morādābād engraved brass-work is ornamented with black, red, or blue lacquer. There is a striking tendency towards the concentration of the manufacture of ordinary articles in the larger centres. The main industries connected with brass and copper supported nearly 60,000 persons in 1901.

The chief class of pottery produced is a rude red ware for domestic purposes. Only the lower castes of Hindus use earthen vessels as cooking-pots, table vessels, or pipe-bowls, but Muhammadans use them freely. Large pots are, however, used by all classes of agriculturists for storing water, grain, and dry goods, for cattle troughs, and for raising water for irrigation. Small articles are made on a heavy wheel revolving horizontally, but the larger vessels are moulded. Ornamental pottery is produced at Chunār in Mirzāpur District, and in Alīgarh, Azamgarh,

Lucknow, Bulandshahr, Morādābād, Sītāpur, and Meerut Districts, and in the Rāmpur State. The Bulandshahr, Meerut, and Rāmpur pottery resembles that made at Multan in the Punjab, and is the most artistic. At Lucknow clay models of human beings, fruit, and vegetables are made, which possess considerable merit. The potter caste, called Kumhār, numbered more than 700,000 Hindus and 20,000 Musalmāns in 1901, while 370,000 persons were returned as supported by pottery-making. In villages the potter is a servant of the community, who receives regular dues and presents, and supplies certain articles free.

Crude native glass is made at many places in the Doāb, the chief centres being in Alīgarh, Mainpurī, and Etāwah Districts. It is manufactured from an efflorescence on the soil of impure carbonate of soda, and the principal articles made are glass bangles. Country-made glass is blown into small phials and flasks in many places.

There is a considerable trade at Agra in articles carved from marble inlaid with other stone, and from soapstone. In Muttra District sandstone is carved; and many private houses and temples exhibit exquisitely carved screens in reticulated tracery, while pillars and beams are also adorned with patterns in relief.

Wood-carving was formerly of importance, and carved door-posts, lintels, doors, and balconies still adorn private houses in many Districts. At present the chief work done consists of articles for sale to Europeans, such as overmantels, screens, and photograph frames. Execution is largely sacrificed to speed of production, and the fret-saw and punch are bad substitutes for the highly-trained eye and hand. Sahāranpur is the chief centre of the trade; but excellent ebony-carving is produced at Nagīna in Bijnor District, and at Mainpurī carved wood is inlaid with brass wire.

Ivory-carving is very rare; but the workmen who produce small articles of bone, such as combs, toys, and the like, occasionally work in ivory. Both ivory and bone are used for inlaying in wood.

The manufacture of sugar is of great importance, especially in the Bareilly, Gorakhpur, and Benares Divisions. The cane is pressed in small mills, with two or three rollers, turned by bullocks. The juice is then roughly filtered and boiled, and the raw sugar is known as *gur* or *rāb* according as it is solid or liquid. *Rāb* is refined by filtering through grass mats and removing the colour by means of a weed called *siwār* (*Hydrilla verticillata*). Other methods of filtering are through woollen blankets or mats of rice straw. Crystallized and loaf sugar are also made by dissolving *gur* in water.

The most important factory industry is that of spinning and weaving. The first mill was opened by private enterprise at Cawnpore in 1869, and three others are working in the same city. In 1905 there were five other mills, three at Agra and one each at Mirzāpur and Hāthras. The

total capital invested is about 111 lakhs, and the out-turn in 1903-4 amounted to 28 million pounds of yarn and 4 million pounds of woven goods. The principal statistics are shown in the following table:—

	1880-1.	1890-1.	1900-1.	1903-4.
Number of mills	2	5	6	9
Number of looms	278	2,141	1,645	3,215
Number of spindles	38,328	135,842	247,230	309,620
Average daily number of hands employed	1,194	5,005	7,017	8,940

The number of factories for ginning, cleaning, and pressing cotton fluctuates, but has increased considerably from eight in 1881 to sixteen in 1891, sixty-five in 1901, and 101 in 1903, while the number of persons employed was nearly 5,000 in 1901, and 8,500 in 1903. These presses are mostly situated in the Meerut and Agra Divisions, and are largely owned and managed by natives.

The single woollen mill at Cawnpore is the largest in India. The out-turn consists of blankets, all kinds of woollen cloths and fabrics, knitting yarn, Berlin wool, &c., valued at nearly 16 lakhs in 1903. The progress made is shown below:—

	1886.	1891.	1901.	1903.
Number of mills	1	1	1	1
Number of looms	229	271	302	302
Number of spindles	5,160	7,690	13,066	13,066
Average daily number of hands employed	808	1,400	1,500	1,500

Tanneries have long been established in Cawnpore, where there are now four large concerns employing more than 7,000 persons daily. All kinds of leathern goods, including boots and shoes, saddlery, military and police accoutrements, are produced and exported to many parts of the world as well as sold in India.

There are six breweries, five of which are situated in the hills and one at Lucknow, the total out-turn in 1903 being 1·4 million gallons of beer.

Other important mill industries are a paper-mill at Lucknow, two large sugar refineries at Shāhjahānpur and Cawnpore, at the former of which rum has long been made, nine iron foundries, and a jute-mill. Smaller undertakings are the lac factories in Mirzāpur, forty-five of which employ about 4,700 persons daily, and soap-works, ice factories, flour-mills, oil presses, printing presses, bone-mills, dairies, and brick and tile works. The manufacture of indigo is declining, but in 1903 there were 402 factories with 27,300 persons employed.

Unskilled labour is paid at rates which vary according to the demand

for other work, especially agricultural. Women are occasionally paid as little as $1\frac{1}{2}$ annas a day, but 2 annas is more usual. Male coolies receive from 2 annas to 4 annas, but the rate usually varies between $2\frac{1}{2}$ annas and 3 annas. Masons and carpenters are paid at rates varying from Rs. 8 to Rs. 15 per month, and blacksmiths from Rs. 12 to Rs. 20. Fitters receive from Rs. 15 to Rs. 25 according to their ability, engine-drivers Rs. 8 to Rs. 15, and spinners in cotton-mills Rs. 10 to Rs. 15.

Except in Cawnpore, the number of factories or mills in any single place is not sufficient to affect internal migration appreciably, and unskilled workmen can be obtained without difficulty. Skilled labour in such places has often to be imported from Bombay or Karāchi. In Cawnpore, however, labour is often difficult to get, and the number of immigrants is large; but they come chiefly from neighbouring Districts, and very few from a considerable distance. Wages are high, while the cost of living is not appreciably more than elsewhere, so that the operatives are able to support themselves without continuous labour. No recruiting agency has yet been formed; but in 1905 an exhaustive inquiry was made by an official into the causes which affect the supply, and an attempt has been made by a combination among the masters to regulate wages and prevent competition for labour. Since plague spread in Cawnpore the labour difficulties have increased, and two mills have erected model dwellings for their workmen.

Trade and commerce.

The trade of these Provinces prior to annexation falls into two classes: the trade of the East India Company, and that of the people generally. The former was almost entirely confined to the purchase of cloth at the two centres of Tāndā in Fyzābād and Allahābād, the value in 1786 being less than 3 lakhs, and a little opium. The latter was most important in the eastern half of the Provinces, for Rohilkhand produced chiefly rice and other grain which was exported to Delhi and the neighbouring Districts, while the upper portion of the Doāb had suffered so much during the decay of the Mughal empire that it had no manufactures and agriculture was languishing, the only exception being a small out-turn of indigo near Etāwah. Mirzāpur was the great centre of trade, owing to its position on the Ganges. Here came merchants from the Deccan and Bundelkhand, with raw cotton and indigo, shawl merchants from the west and traders from Nepāl, taking away piece-goods, raw silk, and spices from Bengal, and tin and copper imported from over-seas. The through trade in 1786 was estimated at about 50 lakhs. Cotton goods from the eastern half of the Provinces were the chief export of local production. Before the collapse of the Mughal power, the finer products of the looms were sent to Delhi, but trade with Europe sprang up after the battle of Buxar in 1764.

The chief exports now are wheat, oilseeds, raw cotton, sugar,

molasses, opium, hides, and *ghī*; the chief imports are English and Indian cotton goods, metals, kerosene oil, manufactured wares, salt, spices, and for some years past foreign refined sugar. Agricultural produce amounts to about 60 per cent. of the exports and 12 per cent. of the imports in normal years, but bad seasons completely alter the balance of trade. In the Meerut Division alone, where there is a magnificent system of irrigation, the exports are fairly steady. The bulk of trade is carried by rail, and for this accurate figures exist. The total value of imports by rail rose from 11·9 crores in 1880–1 to 13·3 crores in 1890–1, 19·6 crores in 1900–1, and was 18·3 crores in 1903–4, while the total value of exports was one crore, 15 crores, 28 crores, and 24 crores in the same years. Accurate figures of river-borne traffic are not available, but its total value is estimated at nearly 4 crores. More than half is carried in about equal proportions by the Gogra and the Ganges. Next in order come the Rāptī river, the Ganges Canal, the Jumna, and the Gumtī. Agricultural produce is by far the most important item of this trade, which also includes large exports of wood and stone. Since 1898 the river-borne traffic between the United Provinces and Bengal, carried along or across the Ganges, the Gogra, and the Gandak, has been systematically registered, and its value in 1903–4 was: imports, 108 lakhs; exports, 122 lakhs. No complete statistics are available for the traffic on roads. From 1897 to 1899 the road traffic with the Punjab was registered at seven posts, and from 1900 to 1902 the traffic with the Rājputāna States was registered at ten posts. The system has since been applied to traffic with the Central India States. It is estimated that the total value of trade by road with other parts of India is: imports, 272 lakhs; exports, 124 lakhs. The foreign trade with Nepāl and Tibet, which will be described below, is registered; in 1903–4 imports were valued at nearly 123 lakhs and exports at 48 lakhs.

The chief centres of trade are Cawnpore, Allahābād, Mirzāpur, Benares, Lucknow, Meerut, Alīgarh (Koil), Hāthras, Muttra, Agra, Farrukhābād, Morādābād, Chandausī, Bareilly, Sahāranpur, Muzaffarnagar, Ghāziābād, Khurja, Kāsganj, Bijnor, Gorakhpur, Ghāzīpur, Pīlībhīt, and Shāhjahānpur. Of these, Cawnpore, Agra, and Hāthras are the most important; but traffic is registered separately only for the first. The trade of Cawnpore is chiefly in raw cotton, cotton goods, grain, oilseeds, and hides and skins, and amounts to about one-fourth of the total traffic of the Provinces. Mirzāpur, Benares, Lucknow, and Farrukhābād are great centres of the brass and copper industries; but in the other towns the trade in agricultural produce is the most important.

The Upper India Chamber of Commerce was founded in 1889 and now has forty-five members, who include almost every European commercial firm and manufacturing concern of consequence in these

Provinces and in the Punjab. Its head-quarters are at Cawnpore. Trade carried on by natives of India has no similar organization.

The mechanism of internal trade is simple. Except in the large towns there is no banking system, and rupees are more popular for actual payments than currency notes. In small towns away from the railway, remittances by notes sometimes raise the price of these above their face value. The greater part of the Provincial trade is rural, and is carried on by methods of long standing. In the rural tracts markets are held at convenient local centres, a few miles apart, once or twice or even three times a week. The surplus produce is disposed of in one of three ways. It is handed over to the village grain-dealer, or sold to itinerant buyers, or disposed of in markets. The grain-dealers and buyers may either be agents for larger firms or sellers to them; and thus numerous small lots of produce are brought together within reach of the railways, and consigned elsewhere by the exporting firms, who are either local traders or agents of firms at the seaports. Similarly imports of goods are brought in by the large houses, and distributed by them to the retail shopkeepers who have shops in the towns and attend the country markets, or to itinerant vendors. Trade is thus highly organized, though the methods are not those of European countries. Hardly a single vernacular paper provides commercial intelligence for its readers. In towns small retail businesses appear to be increasing, and it may be said that retail dealers supply a more diversified class of goods than formerly. The whole tendency is towards the breakdown of the old rule—one article, one dealer. The principal trading castes are the Baniās or Vaisyas, but these now have no monopoly. Certain trades connected with the supply of food, such as confectionery, can be carried on only by castes who are considered pure; but even here there is a tendency to wink at the intrusion of other castes. A hundred years ago Banjārās were the grain-carriers, but they have now settled down to agriculture.

The total value in 1903-4 of the external rail-borne trade with the most important Provinces and States is shown below, in lakhs of rupees:—

	Port of Calcutta.	Port of Bombay.	Rājputāna and Central India.	Punjab.	Bengal, excluding Calcutta.	Bombay Presidency, excluding port.
Imports . .	6,28	2,79	2,16	2,69	3,50	1,15
Exports . .	10,66	3,50	2,13	3,41	3,38	49
Total	16,94	6,29	4,29	6,10	6,88	1,64

Twenty years ago the trade with Calcutta, which is ultimately sea-borne, was nearly half of the total; but it has now fallen to little more

than one-third, owing to the improvement of railway communications with Bombay.

The imports may be divided into raw materials (including machinery and coal) and goods ready for consumption. Of the first class, nearly all the coal comes from Bengal, while railway plant and machinery are chiefly imported from Calcutta, Bombay, the Punjab, and Bengal supplying most of the remainder. The most valuable raw materials imported are metals, which are chiefly obtained from Bombay port, Calcutta, and the Bombay Presidency. Most of the gunny-bags imported, which are used for exporting grain, come from Calcutta and Bengal, and Bengal also supplies lac. Hides and skins are chiefly obtained from Rājputāna and Central India or the Punjab. In the case of articles ready for consumption, piece-goods take the first place, usually amounting to one-quarter of the total imports. These come chiefly from Calcutta, Bombay port, and Bombay Presidency. Salt is imported from Rājputāna, the Bombay Presidency, and the Punjab. A large proportion of the total grain imported is usually rice from Bengal and Calcutta, but in 1903–4 there were considerable imports of gram from the Punjab. A temporary feature of the sugar trade is the extent to which sugar from Mauritius has replaced beet sugar from the continent of Europe since the imposition of countervailing duties. The imports are more than balanced by very large exports of country-made sugar.

The most valuable of the raw materials exported are oilseeds, which are sent to Calcutta, Bombay, and the Punjab. Raw cotton goes chiefly to Bombay and Calcutta for shipment to foreign countries, and hides and skins are mainly disposed of in the same way. Grain and pulse take the first place in the exports of articles ready for consumption; but the figures fluctuate enormously. In the prosperous year 1892, the exports were valued at 955½ lakhs, while in the famine year 1897 they fell to 54¾ lakhs. The value in 1903–4 was 520 lakhs, the most important heads being wheat, gram and pulse, and millets. In prosperous years the wheat is chiefly sent to Calcutta or Bombay for export. Opium also forms a valuable article of export, most of it being sent from Ghāzīpur to Calcutta or to the factory at Patna. Next in importance comes sugar, which is supplied to Rājputāna and Central India, the Punjab, Bombay Presidency, Bengal, and the Central Provinces. The most important item under the head of provisions is *ghī* (clarified butter), which is sent to Calcutta, Bombay Presidency and port, Rājputāna, and Central India. The chief manufactured goods exported are cotton and woollen. The largest markets for cotton goods are Bengal, Rājputāna, and the Punjab. Trade in indigo has decreased rapidly since 1898, owing to the competition of the artificial dye. Previous to that year the exports varied from 70 lakhs to over a crore,

but they have now sunk to 46 lakhs in 1900–1, $21\frac{1}{4}$ in 1901–2, and 13 in 1903–4. More than half of the total goes to Calcutta and a considerable portion of the remainder to the Punjab.

Foreign trade passes direct from these Provinces only to Tibet and Nepāl. It is conducted on primitive lines. Sheep and goats are the means of transport to Tibet, and ponies or pack-bullocks to Nepāl, while barter is largely the method of exchange. The registration is fairly accurate, as transport is difficult outside the roads on which the posts are placed. The value of the imports from Nepāl has risen from 57 lakhs in 1880–1 to 59 lakhs in 1890–1 and 81 lakhs in 1900–1. The principal items and their value in 1900–1 were: grain (chiefly rice) 35 lakhs, *ghī* 11 lakhs, oilseeds 7 lakhs, timber 3 lakhs, gums and resins 1 lakh, and spices 7 lakhs. The exports have risen from 32 lakhs in 1880–1 to 34 lakhs in 1890–1 and 43 lakhs in 1900–1; including cotton goods 27 lakhs, salt 4 lakhs, sugar 3 lakhs, and metals 2 lakhs. In 1903–4 the imports were valued at 115 lakhs, and the exports at 45 lakhs.

Trade with Tibet is on a smaller scale. The total value of the imports in 1900–1 (chiefly borax, salt, and wool) was under 7 lakhs, and of the exports (grain, sugar, cotton goods, and pedlars' wares) $3\frac{1}{2}$ lakhs. In 1903–4 the imports and exports were 7·5 and 3·3 lakhs respectively.

Communications.

The total length of railways in the Provinces increased from 2,571 miles in 1891 to 3,423 in 1901 and 3,636 in 1904. Metre-gauge lines increased from 814 to 1,410 miles, and broad-gauge lines from 1,757 to 2,226 miles. There is now 1 mile of railway to every 31 square miles of area. A railway runs through some part of every District except Almorā and the Tehrī State. The main features of the system are due to the requirements of trade, but they have been occasionally modified by military considerations and the necessities of famine protection.

It has already been stated that the bulk of the trade of the Provinces is with Bengal and Calcutta, and the most important lines are those which carry this. The two trunk lines passing through the length of the Provinces parallel to the great rivers are the East Indian and the Oudh and Rohilkhand, both state railways on the broad gauge, the former being worked by a company and the latter directly by Government. The East Indian Railway, which was commenced before the Mutiny as a military line and trade route, lies entirely south of the Ganges, crossing the Jumna at Allahābād, where it enters the Doāb. It serves Ghāzīpur, Benares, Mirzāpur, Fatehpur, Cawnpore, Etāwah, Muttra, Agra, Alīgarh, Bulandshahr, and Meerut Districts, and meets the North-Western Railway at Ghāziābād. Three short branches run from Dildārnagar to the bank of the Ganges opposite Ghāzīpur, from Tūndla

to Agra, and from Hāthras junction to Hāthras city, while the Jubbulpore branch from Allahābād forms the main route from the south-east of the Provinces to Central India and Bombay. The length has increased from 579 miles in 1891 to 597 miles in 1904, including 58 miles of double track. The Oudh and Rohilkhand Railway starts from Mughal Sarai on the East Indian Railway, and its main line traverses the Districts of Benares, Mirzāpur, Jaunpur, Partābgarh, Rāe Barelī, Lucknow, Hardoī, Shāhjahānpur, Bareilly, Morādābād, Bijnor, Sahāranpur, and the Rāmpur State. A loop-line, formerly the main line from Benares to Lucknow, also serves Jaunpur, Fyzābād, and Bāra Bankī. Important cross connexions from Lucknow to Cawnpore, from Bareilly and Morādābād to Alīgarh, and from Morādābād to Ghāziābād, link it with the East Indian Railway. Its broad-gauge length has risen from 693 miles in 1891 to 1,187 miles in 1904, while 81 miles of narrow gauge have been constructed, forming an important link between the eastern and western systems of India. A third means of communication with Bengal is the Bengal and North-Western Railway, an assisted line of metre gauge. This line was till recently situated entirely north of the Gogra, serving the Districts of Gorakhpur, Bastī, Gondā, and Bahraich, while branches ran up to the Nepāl border. Its importance has been immensely increased by the link mentioned above, which connects it through Bāra Bankī and Lucknow with the Rājputāna-Mālwā Railway at Cawnpore; and within the last few years extensions have been made south of the Gogra in Balliā, Ghāzīpur, Azamgarh, and Benares Districts. The length has risen from 301 miles in 1891 to 761 miles in 1904.

Besides the Jubbulpore branch of the East Indian Railway, there are two lines to Bombay. The Indian Midland section of the Great Indian Peninsula broad-gauge line from Itārsi divides at Jhānsi, one branch passing through the Gwalior State to Agra and Delhi, where it joins the East Indian, while the other traverses Jālaun District, meets the East Indian at Cawnpore, and passes over the Oudh and Rohilkhand line to Lucknow. Including a branch constructed as a famine-relief line from Jhānsi to Mānikpur on the Jubbulpore branch, which crosses Hamīrpur and Bāndā Districts, this railway, which is a state line (incorporated since 1900 with the Great Indian Peninsula), had a length of 328 miles in 1891 and 336 miles in 1904. The other line is the metre-gauge Cawnpore-Achhnerā branch of the Rājputāna-Mālwā Railway, which meets the eastern system at Cawnpore and traverses Farrukhābād, Etah, Alīgarh, Muttra, and Agra Districts. It is a state railway, with a length of 261 miles in 1891 and 282 miles in 1904.

The western frontier of the Provinces is crossed by the East Indian

Railway opposite Delhi. The North-Western State Railway meets the Oudh and Rohilkhand at Sahāranpur, and also serves the rich Districts of Muzaffarnagar and Meerut, joining the East Indian line at Ghāziābād. The total length was 107 miles, all on the broad gauge, in both 1891 and 1904.

West of the Gogra, the submontane Districts of Sītāpur, Kherī, and Pīlībhīt are traversed by the Lucknow-Bareilly State Railway on the metre gauge, with a length of 198 miles in 1891 and 231 miles in 1904. The Rohilkhand-Kumaun assisted railway on the same gauge, with 54 miles built before 1891, runs from Bareilly to Kāthgodām at the foot of the hills near Nainī Tāl. A branch of the Oudh and Rohilkhand Railway to Hardwār has been extended to Dehra by a guaranteed line, 32 miles long.

Since 1901 some short extensions have been completed on the Bengal and North-Western Railway, and important broad-gauge lines from Fyzābād and Jaunpur to Allahābād, crossing the Ganges, and from Delhi to Agra through Muttra. Extensions have also been sanctioned of the Oudh and Rohilkhand in Hardoī, and of the East Indian in Meerut, of the Bengal and North-Western in Oudh, and of the Rohilkhand and Kumaun in Morādābād, Nainī Tāl, Bareilly, and Budaun.

The cost of construction per mile has been—on metre-gauge lines: Lucknow-Bareilly and Rohilkhand-Kumaun, Rs. 41,503; and Cawnpore-Achhnerā, Rs. 46,940; on broad-gauge lines: Oudh and Rohilkhand, Rs. 79,538; and North-Western, Rs. 1,71,532. Separate details are not available for the other lines, which are partly situated in other Provinces.

The Provinces are now so well served by railways that there is no difficulty in moving grain to any part in which the harvest may have failed, and the result has been to equalize prices. In particular, the line through Southern Bundelkhand has been of value. The chief effect of railways on the social conditions of the people has been to relax the restrictions of caste. Food is purchased at railway stations without too close inquiry into the caste of the vendor, and the convenience of swift locomotion overweighs the prejudices of the higher castes against contact with those whose touch necessitates bathing.

The use of roads for through communication has declined since the spread of railways. In the middle of the eighteenth century there were two main routes through the Provinces. One led from Delhi through Muttra to Agra, and, crossing the Jumna at Etāwah, passed through Korā in Fatehpur to Allahābād. The other ran eastwards through Garhmuktesar to Morādābād, and then by way of Bareilly, Shāhjahānpur, Mallānwān (in Hardoī), Rāe Barelī, Salon, and Benares to Patna. When the Provinces became British territory, *zamīndārs* were respon-

sible for local roads. The first great works undertaken by the British Government were: the grand trunk road, commenced in 1832, the line of which has been generally followed by the East Indian Railway; the road from Mirzāpur to the Deccan, and the road from Agra towards Bombay, the last two being of importance for trade, though their length in these Provinces is short, while the first was the great road to the frontier. By 1856 branches had been completed from Khurja and Delhi to Meerut; from Alīgarh and Bhongaon (Mainpurī) to Agra; from Bewar and Gursahaiganj to Fatehgarh, from Kālpī to Cawnpore, from Allahābād to Jaunpur, and from Mirzāpur to Jaunpur; and from Ghāzīpur to Gorakhpur, with sections to Benares and Azamgarh. It was then found that the absence of roads in the Bareilly Division had enabled the Benares Division to capture the trade in sugar; and a road was commenced from Pīlībhīt through Bareilly, Budaun, and Etah to the grand trunk road, and other roads from Bijnor through Meerut District to Delhi, and from Bulandshahr and Alīgarh to Anūpshahr. After the Mutiny an important cross-road from Bāndā through Fatehpur and Rāe Barelī to Fyzābād was undertaken. There were no metalled roads in Oudh before annexation, except that from Cawnpore to Lucknow. After the Mutiny a military road was made from Allahābād to Fyzābād, and the road from Lucknow to Fyzābād was improved, and extended to Jaunpur.

The roads described above still form the principal through communications. The length of metalled roads increased from 4,681 miles in 1891 to 5,082 miles in 1901, while the length of unmetalled roads under regular repair rose from 13,603 miles to 14,167 miles. As funds become available roads are metalled, especially where they act as feeders to railways. Including roads maintained in private estates, forests, and the like, and also the unmetalled roads which are not regularly repaired, the total length of roads in 1904 was: metalled, 5,789 miles; unmetalled, 24,914 miles. Metalled roads are almost entirely under the Public Works department, and unmetalled roads under the District boards.

The body of the ordinary country cart consists of a framework of bamboos and wood, but contains no boards. Sacking or mats are used to prevent grain or similar substances from falling out. The wheels are frequently solid, though made of several pieces of wood fitted together, and are rarely tired. Country carts vary in size according to the breed of cattle available and the state of the roads. The commonest means of conveyance of passengers is the one-horse *ekka*, a light two-wheeled cart, which merely consists of a box-shaped body with a lid about 4 feet square on which the driver and two or three passengers squat. In the towns improved *ekkas* with springs are becoming common.

A light railway runs from Shāhjahānpur to the Lucknow-Sītāpur-Bareilly Railway at Mailānī in Kherī District. It was originally owned by a company, but is now worked by the Bengal and North-Western Railway. An agreement has recently been made with a private firm for the construction of another light railway from the East Indian line at Shāhdara in Meerut District to Sahāranpur, which will serve a rich tract of country.

No canals have been made exclusively for navigation. When Lord Ellenborough postponed the construction of the Ganges Canal, he declared that its chief purpose should be for navigation; but this view was successfully opposed. On the Ganges Upper and Lower Irrigation Canals, which are considered together for this purpose, the length of channel open to navigation is 412 miles. Special works have been undertaken to facilitate traffic. The Ganges main canal has several falls; and supplementary channels, each about 1½ miles long and provided with a lock, were made to avoid the interruption of navigation throughout the course from Hardwār to Cawnpore. The Cawnpore branch was an integral part of the Ganges main canal; but since the opening of the Lower Ganges Canal the portion of the Cawnpore branch between Nānū, where the Ganges Canal bifurcates, and Gopālpur, where the Lower Ganges Canal crosses the Cawnpore branch, has been used only for navigation. The total capital expenditure on navigation works to the end of 1900–1 on the Ganges and Lower Ganges Canals was 9 lakhs. The gross income during the five years ending 1900–1 averaged Rs. 6,000, and the working expenses Rs. 10,000. If interest on the capital outlay be added, the annual loss has been Rs. 22,000. On the Agra Canal, with a capital expenditure of 9 lakhs, receipts from navigation averaged Rs. 4,000 and expenditure Rs. 7,000, while interest charges amounted to Rs. 35,457. The Agra Canal was closed to navigation in June, 1904.

The only steamers plying along the rivers of these Provinces are those of the India General Navigation and Railway Company, Limited, which provide a feeder service on the Gogra. Starting from Dīgha Ghāt in Bengal, the steamers call daily at Barhaj in Gorakhpur District, and every fourth day at Ajodhyā in Fyzābād, which is the farthest port reached, a distance of 293 miles from Dīgha. The passenger and goods traffic are of equal importance, and the latter includes general merchandise, jute, food-grains, wine, beer, manufactured iron, acids, and salt. The steamers can carry from 300 to 600 passengers and from 25 to 75 tons of cargo. Another line till recently called at Ghāzīpur on the Ganges.

The spread of railways has greatly interfered with the carriage of goods by water. There is now no expenditure on the improvement of natural waterways, except on the Ganges between Allahābād and

Balliā. Here an attempt is made to keep a waterway never less than 4 to 6 feet deep. This depth is sufficient for country boats and for the river steamers formerly plying. Tolls are collected in accordance with rules made under Act I of 1867, and in 1880 brought in about Rs. 15,000 annually. Ten years later the receipts had fallen to about Rs. 10,000, and in 1903–4 they were only a little more than Rs. 7,000. The normal expenditure on the works is estimated at Rs. 8,000 to Rs. 10,000, a contribution from Provincial revenues being given when required. The country boats are clinker-built, with a burden rarely exceeding 100 tons and usually much smaller. They are propelled by towing, punting, rowing, or sailing, according to the state of the wind, the river, and its banks.

The rivers are crossed in about twenty places by boat-bridges and ferries under the management of the Public Works department. All other public ferries are managed by District boards, except one or two leased to railways. There is a steam ferry at Ghāzīpur on the Ganges, and during the rains steamers are used at Ajodhyā, but country boats are generally used in other places.

The United Provinces and the Native States of Rāmpur and Tehrī form, together with certain States in the Central India Agency and the State of Dholpur in Rājputāna, a postal circle under the Postmaster-General of the United Provinces. The statistics in the following table show the advance in postal business in the United Provinces in the three last decennial years, and also the figures for 1903–4. Unless otherwise expressly stated, the figures do not include those of the Central India States and Dholpur.

	1880–1.	1890–1.	1900–1.	1903–4.
Number of post offices	1,062*	1,551*	1,713	1,858
Number of letter boxes	434*	1,754*	3,641	4,545
Number of miles of postal communication	11,966*	13,665*	15,143	15,875
Total number of postal articles delivered :—				
Letters	18,980,338*	25,461,242	32,384,462	35,312,628
Postcards	2,738,334*	14,485,822	26,727,167	33,333,144
Packets	270,074*	1,426,162	3,305,937 †	3,902,470†
Newspapers	1,593,199*	3,571,301	3,720,030‡	3,809,910‡
Parcels	198,509*	247,630	410,613	612,716
Value of stamps sold to the public . . Rs.	5,84,485*	9,81,844*	13,67,983	18,75,749
Value of money-orders issued . . . Rs.	60,17,110*	2,05,16,680*	3,17,56,518	3,97,94,488
Total amount of savings bank deposits . Rs.	...	70,16,955*	1,09,85,530	81,01,354

* These figures include statistics for Dholpur State, for which separate figures are not on record.
† Including unregistered newspapers. ‡ Registered as newspapers in the Post Office.

The figures given in the table relate to both the Imperial post and the District or local post. This latter system was a substitute for the

posts which, under an old law, *zamīndārs* were compelled to maintain for the purposes of official communication, the police, and the magistracy. The personal obligation was replaced in 1863 by a cess, the proceeds of which were utilized to open post offices at places where their existence would not be warranted under the commercial principles of the Post Office. The expenditure on the District post averaged Rs. 1,86,997 per annum during the five years ending 1903-4. The number of District post offices on March 31, 1903, was 289, and the total length of District-post mail lines 9,249 miles. In 1906 the reservation of part of the local rates, in which the cess above mentioned had become merged, was abolished; and the District post is now administered by the Postmaster-General in the ordinary way.

Famine.

The cause of scarcity or famine in these Provinces is deficient rainfall in the south-western monsoon, resulting in a failure of the harvest. The tracts most liable to famine are the dry tracts of Bundelkhand and the Agra Division. The submontane Districts generally get an adequate rainfall; the Meerut Division has a magnificent system of canal-irrigation; while the eastern Districts and Southern Oudh are protected by an enormous number of wells. The wells, however, only partially protect the rice crop, which is the important crop in the east.

From the point of view of famine the autumn is the more important harvest, as it provides the food-supply for the masses of the people, millets and rice. The spring harvest is generally the more valuable (except in the rice tracts); but it forms the revenue harvest, not the food harvest. Complete failure of any harvest is no longer possible; whether partial failure will cause scarcity or famine depends on the degree of failure and its effect on the labour market, the character of preceding harvests, and the general condition of the people. The most important crops from the point of view of famine are rice in the eastern and submontane Districts, and elsewhere millets.

When the rains fail, the Government looks out for the regular warnings of distress. Prices rise, private charity begins to dry up, and the beggars flock to the towns. There is great activity in the grain-trade and an increase of petty crime. The people become nervous and apprehensive. They may even take to plundering grain-dealers' shops. Cries against speculation and corners in food-grains are raised. These symptoms recur in every famine.

Famines are known to have been frequent under native rule, but beyond a few horrors that have been preserved in contemporary accounts their history has been lost. Between A.D. 1291 and 1786 thirteen famines are recorded from the neighbourhood of Delhi alone. At the close of the thirteenth century we read that the people from the Siwāliks came crowding into Delhi, and in the extremity of hunger

drowned themselves in the Jumna, while prices rose to four times the ordinary rates. In the second quarter of the fourteenth century the excessive taxation of Muhammad bin Tughlak aggravated the results of drought and thousands of people died. Ibn Batūta says that he saw people eating hides; Barnī relates that man ate man; the distress lasted for years. At the end of the fourteenth century, after the ravages of Tīmūr, the Upper Doāb again suffered from famine; and in 1424 famine in Hindustān prevented the march of the royal army to Kanauj. In 1471 the Lower Doāb and Bundelkhand suffered during the wars between the Lodīs of Delhi and the Jaunpur kings. Two hundred years later, famine due to drought ravaged the Upper Doāb in 1661. Even of famines so late as 1770 little is known that is worthy of record. In 1783–4 occurred the great famine still known as the *chālīsa* or '40 (1783–4 = 1840 *samvat*), in which instructions were issued to 'Chiefs and Collectors' to regulate the price, distribution, and sale of grain, and to establish storehouses. Twenty years later severe famine visited the Provinces in consequence of a failure in the monsoon of 1803, following a period of political disturbance. Relief was given by remitting over 30 lakhs of revenue, by advancing 10 lakhs to the landowners, and by offering a bounty on all grain imported into Benares, Allahābād, Cawnpore, and Fatehgarh. This was followed in 1812 by a famine in the trans-Jumna Districts, regarding which little is known.

In 1837–8 occurred perhaps the worst famine of the nineteenth century. From Allahābād to Delhi the famine was intense, especially between Cawnpore and Agra. The rains of 1836 had failed almost completely and previous harvests had been poor. Prices rose to about 10 seers per rupee. There were violent outbreaks of crime and the troops had to be called out. The mortality was very great, and the country did not recover for many years. The principles of modern relief policy date from the arrangements made in this famine. Remissions of revenue were granted to the amount of 95 lakhs; 20 lakhs was spent on relief works and $3\frac{1}{2}$ lakhs on gratuitous relief.

This famine was followed by a cycle of good years. Then came the disturbances of the Mutiny and two years of irregular rainfall. In 1860 the monsoon failed, and famine was general in the western Districts of Bundelkhand and very severe between Agra and Delhi. More than 9 lakhs was spent on relief works and $5\frac{1}{2}$ lakhs on gratuitous relief. Advances were given to the extent of 3 lakhs and $2\frac{1}{2}$ lakhs of revenue was remitted. This famine is celebrated for the invention of poor-houses by Mr. (afterwards Sir) John Strachey, and for the gift of relief to *parda-nashīn* ladies in their homes; it was also the occasion of the first famine inquiry, in the course of which Colonel Baird-Smith drew prominent attention to the increase in staying power shown by the

people. This he attributed to stability of tenure and canal-irrigation.

The Rājputāna famine of 1868 affected the whole of the west of the Provinces and Bundelkhand, and was very severe in the trans-Jumna Districts. Sir William Muir, the Lieutenant-Governor, issued the famous order insisting on the personal responsibility of officers to save every life that could be saved. The relief system, however, broke down under the pressure of immigration from Native States. About 25 lakhs was spent on relief works and 4½ lakhs on gratuitous relief. About 10 lakhs was advanced to cultivators, but remissions of revenue were small.

The Bihār famine of 1873-4 was accompanied by scarcity in the adjacent Districts on the east of these Provinces, and also in Bundelkhand. It was found, however, that little relief was required.

The failure of the monsoon in 1877 was the worst on record, and the autumn crop on unirrigated lands was lost; but good rains in October and December secured the spring harvest. Relief works were opened in September, but people did not come in any numbers until early in 1878. They left the works for the spring harvest, but returned when that had been gathered, and stayed until the rains fell in August, 1878. Only 16 lakhs was spent on relief works, and about 4 lakhs on gratuitous relief.

In 1890 both crops failed in Kumaun, which hardly produces sufficient grain to support its inhabitants even in good seasons. The people had money, but there was no grain to buy. Accordingly Government imported 45,000 maunds of grain. This met the situation, and no further relief was required. Similar conditions in 1892 led to similar measures. Again about 45,000 maunds of grain were imported by Government agency. This proved to be sufficient in Garhwāl, but relief works were opened elsewhere. These failed to draw any considerable numbers, and an early monsoon in 1892 put an end to the scarcity, which in neither year had been acute. On both occasions the expenditure was small, most of the money spent having been recovered.

The monsoon of 1895 failed in Bundelkhand, and by the end of the year it was necessary to start relief. The rains of the year following failed more or less widely and famine became general over the Provinces, excluding the Meerut Division. A very elaborate organization of relief was undertaken. Altogether 282 million 'units'[1] were relieved. The direct expenditure on relief, excluding establishment and incidental charges, was 167 lakhs. Loans and advances amounted to 40 lakhs, revenue was suspended to the extent of nearly 145 lakhs, and remitted in the case of 65 lakhs more.

The effects of the famine of 1868-9 and 1877-8 were still to be

[1] 'Unit' means one person relieved for one day.

traced in the census statistics of 1901, the former in the low proportion of persons at ages between thirty and thirty-five, and the latter in that at twenty to twenty-five. The vital statistics for the years 1894 and 1897 illustrate the difference in the effects of bad fever and famine. Infantile mortality was greater in 1894 than in 1897; but this was probably due to a higher birth-rate in 1893 than in 1896. From the ages five to fifteen famine sweeps off more persons than fever. Between the ages of fifteen and forty fever is more deadly to females than famine, and less fatal to males, the explanation being that this is the child-bearing age for females. From forty to sixty famine claims more victims from both sexes than fever, which again assumes the upper hand in the last stages of life. Both fever and famine reduce the birth-rate, but the recovery after famine is immediate and more marked than after fever.

Much has been done to protect the Provinces against the effects of drought. The Doāb is intersected with canals drawn from the Ganges or the Jumna, the greatest being the UPPER GANGES CANAL, capable of irrigating about 1½ million acres. The LOWER GANGES CANAL has already irrigated more than a million acres, and is designed to irrigate 1¼ million acres. Altogether, 1,551 miles of canals and branches are open, with 8,081 miles of distributaries, 3,432 miles of drains, and 331 miles of escapes, navigation channels, mill-runs, &c. In addition, there are about half a million masonry wells, of which the greater number are found in the eastern Districts and Southern Oudh. The Government offers advances on easy terms for the construction of wells to all who can give any security. As yet but little advantage has been taken of the offer. A programme for extending canals and banking up small streams to form reservoirs is now being carried out in Bundelkhand, where the principal canal is taken from the BETWA.

Great attention has been paid to the improvement of communications. In 1904, 3,636 miles of railway were open to traffic, and some 300 miles in addition were under construction or about to be constructed, while surveys have been sanctioned for 165 miles more. The railways are fed by an elaborate system of roads that are regularly kept up.

Administration.

The first Lieutenant-Governor of the North-Western Provinces was Sir C. T. Metcalfe, who was appointed in 1836. Excluding temporary incumbents, his successors, with the dates of their appointment, were: Mr. T. C. Robertson (1840); Mr. J. Thomason (1843); Mr. J. R. Colvin (1853); Sir G. F. Edmonstone (1859); Hon. E. Drummond (1863); Sir W. Muir (1868); Sir J. Strachey (1874); and Sir G. Couper (1876). The Governor-General-in-Council three times administered the Provinces in person: namely, from 1838 to 1840 (Lord Auckland), from 1842 to 1843 (Lord Ellenborough), and from 1858 to 1859 (Lord Canning). The North-Western Provinces and Oudh were united in 1877 under Sir G. Couper as

Lieutenant-Governor and Chief Commissioner, a post which has been since held by Sir A. C. Lyall (1882), Sir A. Colvin (1887), Sir C. H. T. Crosthwaite (1892), Sir A. P. MacDonnell (1895), Sir James Digges La Touche (1901), and Sir J. P. Hewett (1906). The title of Chief Commissioner was dropped in 1902, when the new name of United Provinces was introduced. The Secretariat staff consists of five secretaries and five under-secretaries. Three of the secretaries belong to the Indian Civil Service; the chief secretary is in charge of the Revenue, Appointment, General Administration, Political, and Forest departments; another secretary of the Medical, Judicial, Police, Educational, and Sanitation departments; and the third of the Local Self-Government, Financial, Municipal, Miscellaneous, and Separate Revenue departments. The other two secretaries belong to the Public Works department, and are also Chief Engineers. One of these deals with the Irrigation branch, and the other with Roads and Buildings. The Board of Revenue is the highest court of appeal in revenue and rent cases, and has also important executive duties. It is the chief revenue authority in the Provinces, controlling the assessment and collection of land revenue, income tax, stamps, and excise, and is also the Court of Wards. There are two permanent members, and a third member was temporarily sanctioned for four years from 1902, on account of the pressure of work due to settlement and the operations of the Bundelkhand Encumbered Estates Act. The Board has a secretary and joint-secretary who belong to the Indian Civil Service, and a junior secretary who belongs to the Provincial Service. The heads of Provincial departments are the Inspector-General of Police, Director of Public Instruction, Inspector-General of Jails, Inspector-General of Civil Hospitals, Sanitary Commissioner, Director of Land Records and Agriculture, and Commissioner of Excise and Stamps, who is also Inspector-General of Registration. The Accountant-General and Postmaster-General represent Imperial departments under the Government of India.

There are forty-eight British Districts, thirty-six being in the Province of Agra and twelve in Oudh. The average area is about 2,200 square miles, and the average population a million. Districts vary in size from 977 square miles (Lucknow) to 5,223 square miles (Mirzāpur) in the plains, while the hill Districts of Almorā and Garhwāl have an area of 5,416 and 5,629 square miles respectively. Each District is in charge of a District officer, who is called Collector and Magistrate in the Province of Agra, excluding the Kumaun Division, and Deputy-Commissioner and Magistrate in the Kumaun Division and in Oudh. The Districts are grouped together in Divisions, each under a Commissioner, to whom the District officers are subordinate. There are nine Divisions, having an average area of nearly 12,000 square miles, and a population of 5 to 6 millions. The number of Districts in a

Division varies from three (Kumaun and Gorakhpur) to five (Benares), six (Meerut, Agra, Bareilly, Lucknow, and Fyzābād), or seven (Allahābād). The most important subdivision of a District is the *tahsīl*, of which there are 217, with an average area of 500 square miles and a population of 220,000. For judicial purposes (both criminal and revenue) the District officer assigns a subdivision, which consists of one or more *tahsīls*, according to the number of officers available, to each of his subordinates, who may be Covenanted Civilians (Joint and Assistant Magistrates and Assistant Collectors) or members of the Provincial Service (Deputy-Collectors and Magistrates). In a few large Districts (e.g. Sahāranpur, Bāndā, Hamīrpur, Jhānsi, Gorakhpur, Nainī Tāl, Almorā, and Garhwāl) one or more of the subdivisional officers reside in their subdivisions, but as a rule they are stationed at head-quarters. In the revenue system of the Mughals the *Sarkār* roughly corresponded in area to the Division, and the *Dastūr* to the District, though the limits of particular units have largely altered.

Each *tahsīl* is in charge of a *tahsīldār*, who is primarily responsible for the collection of revenue, and also exercises judicial powers (criminal and revenue). *Tahsīls* are divided into *parganas* (which are chiefly of importance in the periodical settlement of land revenue, when they are taken as convenient units). The *parganas* correspond very closely both in name and area with the *mahāls* recorded in the *Ain-i-Akbarī*. Subordinate to the *tahsīldārs* are the supervisor *kānungos*, of whom there are, on an average, about three to each *tahsīl*, or 731 in all. These officials supervise the work of the *patwāris* or village accountants, and check their papers, besides performing miscellaneous functions.

The village autonomy is chiefly confined to the internal relations of the villagers. As in most parts of India, menials (such as the messenger, watchman, barber, and sweeper) and artisans (blacksmith, carpenter, and potter) are village servants and receive a share in the crops for ordinary services. Previous to British rule the village system in Northern India was local government by an aristocracy. The lower castes managed their own social affairs by a *panchāyat* or council in each caste, but had no voice beyond this, and were largely in the position of serfs. The higher castes had no *panchāyats*, but the chief tenants or *zamīndārs* managed the affairs of the village. Land revenue and canal rates are generally collected (except in the eastern Districts) by the *lambardār*, who is selected by the subdivisional officer after nomination by the whole body of co-sharers. Apart from this, no regular link existed between the people at large and the officials of government, till, in 1894, headmen, generally selected from the *lambardārs*, were appointed in every village and large hamlet. The headman (*mukhia*) has no powers of any kind, but in consideration of his duties of reporting crime under the Criminal Procedure Code he is allowed to possess a sword without

a licence. An attempt recently made to associate the headman with the police in criminal investigations has been abandoned.

The Commissioners of the Bareilly and Kumaun Divisions are Political Agents for the Native States of Rāmpur and Tehrī respectively. Each of these States is administered by the chief with the help of a Council or Darbār. In Rāmpur the Minister is at present an official lent by the British Government. Both chiefs now exercise full powers of civil, criminal, and revenue administration; but the Rājā of Tehrī submits the records of cases in which he has ordered capital punishment for the approval of the Commissioner of Kumaun. The Commissioner of Benares is a Political Agent for the purpose of paying certain political pensions.

Legislation and justice.

A Council for legislative purposes only was first constituted in 1886. It consisted of nine members, of whom not fewer than three were non-officials, the Lieutenant-Governor presiding. The Indian Councils Act of 1892 provided for an enlargement of both the functions and the numbers of the members. The Council now consists of a maximum number of fifteen members, of whom not more than seven may be officials. Of the eight non-official members, six are appointed by the Lieutenant-Governor on the recommendation of the representatives of two groups of selected municipal boards, two groups of District boards, the Upper India Chamber of Commerce, and the Senate of the Allahābād University. The annual financial statement is explained by the Financial Secretary to Government and discussed by the members, who are not, however, permitted to refer to Imperial finance. Questions may be asked at any meeting on any subject, but are limited to matters of fact in the case of subjects which are, or have been, the subject of controversy between the Government of India or the Secretary of State and the Local Government.

The following are the chief legislative measures specially affecting the Provinces which have been passed since 1880, excluding Acts subsequently repealed:—

A. Acts of the Governor-General's Council.

Vaccination	(XIII of 1880).
Benares Family Domains	(XIV of 1881).
Indian Easements	(V of 1882, extended by VIII of 1891).
Northern India Ferries	(III of 1886).
Lieutenant-Governor's Functions, Agra	(XIX of 1886).
Oudh *Wasīkas*	(XXI of 1886).
Oudh Rent	(XXII of 1886).
Civil Courts, Agra	(XII of 1887).
Allahābād University	(XVIII of 1887).
North-Western Provinces and Oudh (Administration)	(XX of 1890).

Courts, Oudh	(XIV of 1891).
Excise	(XII of 1896).
Assam Labour and Emigration	(VI of 1901).
United Provinces (Designation)	(VI of 1902).

B. Acts of the Lieutenant-Governor's Council.

Water-works	(I of 1891).
Lodging-houses	(I of 1892).
Village Sanitation	(II of 1892).
Village Courts	(III of 1892).
Sewerage and Drainage	(III of 1894).
Honorary Munsifs	(II of 1896).
Steam Boilers and Prime Movers	(I of 1899).
Court of Wards	(III of 1899).
Municipalities	(I of 1900).
Oudh Settled Estates	(II of 1900).
Agra Tenancy	(II of 1901).
Land Revenue	(III of 1901).
Bundelkhand Encumbered Estates	(I of 1903).
" Alienation of Land	(II of 1903).
General Clauses	(I of 1904).
Local and Rural Police Rates	(II of 1906).
United Provinces District Boards	(III of 1906).

Except in the Kumaun Division, which will be referred to later, the subordinate civil courts are distinct from the courts dealing with criminal and rent and revenue cases. The High Court in the Province of Agra, and the Court of the Judicial Commissioner in Oudh, are the final appellate authorities in both criminal and civil cases. The former consists of a Chief Justice and five puisne Judges, and the latter of a Judicial Commissioner and two Additional Commissioners. District and Additional District Judges, of whom there are twenty-one in the Province of Agra and six in Oudh, have both original and appellate jurisdiction in civil and criminal cases, and occasional appellate jurisdiction in rent cases. District officers and their assistants, including *tahsīldārs*, preside in both criminal and rent and revenue courts. In Kumaun the Commissioner is a High Court in civil cases and a District Judge in criminal cases, while the District officers and their assistants exercise civil, criminal, and rent and revenue powers. In the larger cantonments the Cantonment Magistrates have limited powers as Judges of a Small Cause Court.

The ordinary civil courts of original jurisdiction are those of the Munsif, Subordinate Judge, Judge of Small Cause Courts, and District Judge. There are sixty-eight Munsifs in the Province of Agra and twenty-five in Oudh, whose jurisdiction extends to all suits the value of which does not exceed Rs. 1,000. In Oudh a few Munsifs have been specially empowered to decide suits of a value up to Rs. 2,000. Subordinate Judges, of whom there are nineteen in Agra and twelve in Oudh,

may try suits of any value in Agra, and suits the value of which does not exceed Rs. 5,000 in Oudh, unless they are specially authorized to try suits without limit. Appeals from the decrees of Munsifs and Subordinate Judges, where the value of the suit does not exceed Rs. 5,000, lie to the District Judge, who may, and generally does, transfer appeals from the decrees of Munsifs to be heard by Subordinate Judges. Appeals from the decrees of District Judges, and from the decrees of Subordinate Judges in cases exceeding Rs. 5,000 in value, lie to the High Court in the Province of Agra and to the Judicial Commissioner's Court in Oudh. There are five Judges of Small Cause Courts, whose jurisdiction extends to suits valued at Rs. 500, in the Districts of Allahābād, Cawnpore, Benares, Agra, and Lucknow; but all Subordinate Judges and many selected Munsifs have limited jurisdiction as Judges of Small Cause Courts.

The principal statistics of civil suits are shown in Table VII on page 267. There has been a striking increase in the number of cases disposed of by Small Cause Courts, which averaged 32,479 from 1881 to 1890 and 59,458 from 1891 to 1900. This is more than counterbalanced by the decrease in cases tried by Subordinate and District Civil Courts. The increase in rent litigation is due to a change in the law in the Province of Agra made so recently that its permanent effect cannot be gauged. The figures for civil suits proper do not include those for Kumaun, where the number of suits decided averaged 5,320 from 1881 to 1890, 5,092 from 1891 to 1900, and was 4,228 in 1901, and 4,187 in 1903.

In Oudh there are a few Honorary Munsifs, and the system is now being extended to the Province of Agra. Their jurisdiction is similar to that of Judges of Small Cause Courts, but is limited to suits not exceeding Rs. 200 in value, and they follow the procedure of ordinary Munsifs. Provision has been made for the establishment of village courts by (United Provinces) Act III of 1892, and Village Munsifs are being appointed. Only simple cases are cognizable by these courts, and jurisdiction is fixed at a maximum of Rs. 20. In 1903 the seventeen Honorary Munsifs in Oudh decided 1,750 cases; and 435 Village Munsifs, of whom 178 were in the Province of Agra and 257 in Oudh, decided 7,221 cases.

The stipendiary Magistrates include *tahsīldārs*, Deputy-Magistrates, Assistant and Joint-Magistrates, and District Magistrates. The first named usually have second or third class powers, while Deputy-Magistrates and Covenanted Civilians are invested with full powers after completely passing their examinations. There are also eleven regular Cantonment Magistrates, and a few Special Magistrates in the Forest and Canal departments. In the larger towns and in a few rural areas there are benches of Honorary Magistrates with 278 members;

seventy-six other Honorary Magistrates are empowered to try criminal cases, chiefly in their own estates.

The chief statistics of criminal justice are given in Table VII on page 267. There has recently been a steady though small reduction in the total number of persons convicted, which fell from an average of 236,765 in the decade 1881–90 to 228,881 in the following decade. The decrease is chiefly noticeable in the convictions for offences against person and property, which fell by more than 6 per cent., and indicates a distinct improvement in public safety.

All District Judges are Registrars under the Registration Act, 1877. In Dehra Dūn the Subordinate Judge, and in the Kumaun Division Deputy-Commissioners, hold the same office. The Provinces are divided for registration purposes into sub-districts, which usually correspond with *tahsīls*; and a sub-registrar is appointed for each sub-district, the work of these officials being supervised by two inspectors. The number of offices was 362 in 1881, 347 in 1891, 271 in 1901, and 264 in 1904. The reduction is chiefly due to reorganizations in Oudh, where the number was formerly excessive. The number of documents registered has increased from an average of 187,530 in 1881–90 to 216,867 in 1891–1900. In 1904 it was 207,556.

Finance.

The main source of public income under native rule was derived from an assessment on land. In addition to this many cesses or taxes were levied, some being items of imperial receipt, while others were merely the irregular extortions which formed part of the remuneration of the officials, or the income of the *zamindārs*. Chief among the imperial taxes were excise, customs, taxes on manufactures (especially weaving) and houses, and town duties on sales or octroi. The officials and the landholders levied transit dues on goods, and presents on different occasions, such as festivals. In Oudh, at the time of annexation, the nominal demand for land revenue was about 130 lakhs, which was increased by fees and cesses to nearly 170 lakhs. The summary settlement of the land revenue in Oudh after the Mutiny amounted to less than 106 lakhs.

The striking feature of the first seventy years of the nineteenth century is the strict control over expenditure exercised by the Supreme Government. The proceeds of a few cesses and minor sources of income could alone be spent by the Provincial Government without sanction.

The first scheme of decentralization took effect from 1871–2, when the administration of certain departments—jails, registration, police, education, medical services, excluding the salaries of superior officers, printing, roads, buildings, and miscellaneous public works—was made over to the Provincial Government. The receipts, from those which were productive, were estimated at 13½ lakhs and the charges at 98

lakhs, and a fixed annual allotment of 84½ lakhs was made to cover the difference. These arrangements lasted for six years with a few small alterations.

In 1877–8 a further step was taken, and items which supplied revenue more capable of development were transferred to the control of the Provincial Government. These included excise, stamps, law and justice, collections from Government estates in the Tarai, Bhābar, and Southern Mirzāpur, and a few miscellaneous items, while the Provincial Government was made responsible for expenditure on the services connected with land revenue, excise, stamps, administration, stationery, law and justice, and a few other items. The total Provincial expenditure was thus raised to 274 lakhs, which was to be met by estimated receipts of 142 lakhs and an allotment of 84 lakhs, the balance being a charge on Local funds which were not yet separated from Provincial accounts. Variations from the estimated receipts were to be shared equally between the Provincial and Supreme Governments. These figures also cover the separate arrangements under which productive canals and railways of purely local importance were entrusted to the Provincial Government, which was further made responsible for a part of the expenditure on famine relief. By the former arrangement expenditure amounting to 41 lakhs was transferred with an income of 31 lakhs, while, to meet the deficiency, a licence tax yielding 8½ lakhs was imposed in the Province of Agra under Act VIII of 1877, which was afterwards revised and extended to Oudh by Act II of 1878. To meet the expenditure on famine relief, special rates were authorized by Acts III and IV of 1878, which also gave power to reserve portions of the local rates for Provincial canals and railways. The new arrangements worked satisfactorily, and the Provincial and Local balances, which were still practically identical, increased to 135½ lakhs.

The next change made was to substitute a fixed proportion of certain revenues for a lump assignment. Thus the revenue from, and expenditure on account of, forests (which had previously been Imperial), excise, assessed taxes, stamps, and registration were divided equally between the Imperial and Provincial accounts. Charges on account of pensions were made entirely Provincial, and the arrangements made for canals and railways were continued. The expenditure thus assigned exceeded the income, but a further addition was made of 25·45 per cent. of the land revenue, by which it was calculated that a surplus of about 5 lakhs would be available. The total annual income was estimated at 309½ lakhs, and the expenditure at 304⅓ lakhs. At the same time taxation was reduced by the abolition of the cesses from which *patwāris* (village accountants) and *kānungos* (inspectors of *patwāris*) were paid in the Province of Agra, and by the transfer of the

liability for the pay of the same officials from the *zamīndārs* to Government in Oudh. In the last year of the contract the old licence tax was replaced by the Imperial income tax (Act II of 1886).

In the next quinquennial period the Provincial share of land revenue and excise was reduced to one-quarter, while the share in stamps was raised to three-quarters, and the cost of survey and settlement, of which three-quarters had previously been met from Imperial revenues, was made entirely Provincial. The railways which had been built from Provincial savings now became Imperial, with one exception. It was estimated that the income, after a lump deduction of 4½ lakhs in favour of Imperial revenue, would be 324 lakhs and the expenditure 321 lakhs. New taxation was imposed in 1889 in the shape of a *patwārī* rate[1]; but the proceeds (which were credited to a new fund) were really a subvention to Imperial revenues, as the lump deduction was increased by 20 lakhs, the estimated yield of the tax. Savings amounting to 22 lakhs in settlement expenditure were resumed by the Supreme Government.

Railways were entirely removed from the Provincial account in 1892. The new settlement was made with no other change in the method of sharing, but the annual lump deduction from Provincial receipts was fixed at 25 lakhs, the estimated income and expenditure being taken as 315¼ lakhs. A sum of 5 lakhs annually was also given for reforms in the police. This settlement was soon found to be inadequate, and in 1894 necessary reforms in District establishment and in the survey system could be carried out only by charging their cost to the *patwārī* fund. By 1896 the Provincial balance had fallen to 17 lakhs, and in the last year of the settlement famine caused Provincial bankruptcy.

Pending the restoration of normal conditions, a temporary arrangement was made for one year, the Provincial share of the heads of revenue most affected (land revenue, excise, rates, and irrigation) being taken at fixed sums. Another provisional settlement followed on the same lines as those for 1887 and 1892, with the exception that the net revenue from irrigation ('major' works), which had fluctuated considerably, was now equally divided and compensation was given in the lump adjusting figure. This settlement was originally made for two years, but it was continued by short extensions up to 1904.

The expenditure of the Provincial Government during the early settlements was designedly economical, in order to accumulate reserves which could be spent on productive works. Imperial considerations, however, led to the removal from the account of the Provincial railways, on which 120 lakhs had been expended. The method of adjusting the terms of settlement on the basis of previous expenditure had tended to stereotype a low scale. Excluding the capital cost of railways and canals, the actual Provincial expenditure was 322½ lakhs a year from

[1] This rate was finally abolished in 1906.

1882 to 1887, and 320 lakhs a year from 1887 to 1892. A more liberal allowance was made in the temporary settlements from 1897 to 1904, and the average expenditure from 1897 to 1902 was 363 lakhs. This included extra grants of 10 lakhs in 1898–9, 13 lakhs in 1902–3, and 12¼ lakhs in 1903–4, of which specified amounts were allotted for expenditure on education, public works, and the pay of establishments in District offices and courts.

The variations in the receipts and expenditure under different heads are shown in Tables VIII and IX on pages 268 and 269, and the most important are referred to in describing the various branches of administration concerned.

From 1904 a new settlement has been made, which will ordinarily not be altered until the variations over a term of years from the standard now taken have become considerable. The Provincial share of receipts and expenditure is fixed at a quarter in the case of excise, assessed taxes, forests, and registration, and at one-half in the case of stamps; while in the case of land revenue the Provincial Government obtains one-quarter of the receipts, excluding those from Government estates which are entirely Provincial, and bears half the charges. 'Major' irrigation works have been made entirely Provincial, but a net revenue from them of at least 40 lakhs is guaranteed. The estimated revenue for 1904–5 was 372½ lakhs. A lump sum of 30 lakhs has been given to start the new settlement, besides some smaller amounts for special purposes.

Land revenue.

Proprietary rights in land existed in most parts of the Provinces before the advent of British rule, but were not strictly defined, and the sale of such rights was almost unknown. In Bundelkhand and in Kumaun the system was *ryotwāri*, while elsewhere it was generally *zamīndāri*, though in the eastern Districts it so far resembled *ryotwāri* that the principle of the joint responsibility of all the co-sharers for payment of the land revenue due from the village was not recognized, each co-sharer being responsible for his own quota only. No distinction was made between these two classes in the revenue system introduced by the British; but the effects of the difference in constitution are still noticeable, and joint responsibility is enforced with difficulty in some parts of the Provinces.

Double proprietary rights were found to exist in some Districts, mostly in estates which were known as *talukdāri*, where the inferior proprietors were called *zamīndārs*, *biswadārs*, *birtiās*, or *mukaddams*. The *talukdāri* estates had their origin in various ways. Some of the *talukdārs* were representatives of old princely houses, who had retained or acquired authority over considerable areas, or were chiefs of territorial clans. Others were officials, who had by degrees acquired similar authority which tended to become hereditary. In the disorder preva-

lent during the eighteenth century *talukas* grew or fell to pieces according to the personal character and power of the *talukdār*. Powerful *talukdārs* absorbed the property of their smaller neighbours, some of whom were forced to accept a subordinate position, while others voluntarily placed their villages under the control of the *talukdār* for the sake of protection. On the other hand, in the old territorial *talukas* it had been the practice of the *talukdārs* to grant subordinate rights in portions of their hereditary domains. Such grants were of various kinds, and the most common form was that of *birt*, a term meaning 'cession[1].' They were made for a money payment, for services, to the heirs of men who had died in battle (*marwat*), and frequently in the northern Districts for the clearance of jungle or reclamation of waste. The early experience of the British in Bengal pointed to the advisability of engaging with the actual village proprietors, and not with the *talukdārs*, where these were officials or had but recently acquired their authority; and this policy was adopted in the settlements of Benares and the Ceded and Conquered Provinces. Thus in the Province of Agra the double proprietary form of tenure is now rare, except in a few Districts. In OUDH the system had flourished under the misrule of the first fifty years of the nineteenth century, and *talukdārs* held two-thirds of the villages in the Province. The policy of setting aside the *talukdārs* was applied to Oudh in 1856, when they lost nearly one-half of their *talukas*; but after the Mutiny the status before 1856 was revived. In the Province of Agra the engagement for payment of revenue is usually taken from the subordinate proprietor, who also pays a fixed percentage on the revenue (generally 10 per cent.) into the treasury, which is disbursed by Government to the *talukdār*. In Oudh the settlement is made with the *talukdār*, and the subordinate proprietor is protected by a sub-settlement. The latter manages the estate for which he has a sub-settlement, and pays the revenue demand *plus* a fixed amount to the *talukdār* direct. The area held in *talukdāri* tenure amounts to 55 per cent. of the assessed and 51 per cent. of the total area in Oudh, but only a small portion of this is sub-settled.

Other subordinate rights exist, which extend only to specific plots in a village, and not, as in the case of a sub-settlement, to an entire village or *mahāl*. These rights arose in various ways. Sometimes they are a vestige of a former proprietary right. In other cases their origin was a grant similar in character to those already described, or they were the religious and charitable grants commonly known as *sankalp*. The sum payable to proprietors by under-proprietors, as the holders of these rights are called, is liable to revision at each settlement. In the Benares Division, which is permanently settled, similar rights are held by permanent tenure-holders whose rent is not liable to alteration.

1. Hooper, *Bastī Settlement Report*, p. 34.

For revenue purposes the unit is the *mahāl*, which may be defined as the area for which a separate agreement for the payment of land revenue is taken. A *mahāl* may be a single village or part of a village, or may include more than one village. In the eastern Districts complex *mahāls* occur, which often extend to parts of a number of villages.

The ordinary landholder is known as *zamīndār*, and *zamīndāri* tenures are divided into four classes: (*a*) *zamīndāri* proper, in which the profits (but not the land) of a whole *mahāl* are divided among the co-sharers, if there are more than one, according to their shares; (*b*) *pattīdāri*, where the whole land (not the profits) of a village is divided between the different co-sharers or groups of co-sharers in definite fractions of the total; (*c*) imperfect *pattīdāri*, where part of the land is undivided as in *zamīndāri*, and part is divided as in *pattīdāri*, the profits of the undivided land being shared in approximately the same proportions as those of the divided land; (*d*) *bhaiyāchārā*, where the land is also divided, but where each share is a definite area or specific plot and is not defined as a fraction of the whole. Revenue is usually paid in each class by a representative of the co-sharers who is called the *lambardār*; one or more *lambardārs* are appointed in each *mahāl*. In *zamīndāri mahāls* owned by several co-sharers, and in *pattīdāri mahāls*, the relations between landlord and tenant are managed by representative co-sharers in consultation with the whole body. In the eastern Districts, as already noted, the *lambardāri* system is not successful, owing to the weakness of joint responsibility, and individual co-sharers frequently manage their own shares and pay their revenue direct.

In the permanently-settled Districts of the Benares Division a special class of tenants is found who have heritable and transferable rights at a fixed rent, and are liable to eviction only for default in paying rent. Other tenants are divided into two classes according as they have or have not a right of occupancy; but the term 'occupancy tenant' bears a different meaning in each Province, and the non-occupancy tenant in Oudh has certain rights which he does not possess in Agra. In the older Province the occupancy tenant has a heritable, but not a transferable[1], right to hold certain land, and is not liable to eviction except for default in paying rent, while the rent payable cannot be enhanced except by mutual agreement or by order of a revenue court, generally on the ground that it is below the prevailing standard of rent for similar land. Up to the passing of Act X of 1859, it was left to the Settlement officer to record whether any particular tenant had occupancy rights or not according to the custom of the locality. That statute, however, provided that any tenant acquired occupancy rights in land which he had cultivated continu-

[1] Subletting is allowed under certain restrictions.

ously from year to year, without holding a lease, for at least twelve years, unless the land was the home farm (*sīr*) of a proprietor or was already included in an occupancy holding. The increase of population and growing competition for land led in some parts of the Provinces to a strong desire on the part of the landlords to check the growth of occupancy rights, which was carried into effect by manipulating the village records, by giving short leases, or by changing the holding of a cultivator before the right had accrued. The law was accordingly altered by (United Provinces) Act II of 1901, which provides that the change of a holding or dispossession for less than a year does not operate as a break in the period of twelve years, while a lease does not prevent the accrual of occupancy rights unless it is for at least seven years. A landholder who parts with his proprietary rights obtains occupancy rights in his home farm at a privileged rate of rent 25 per cent. below the rate generally payable for similar land in the neighbourhood by non-occupancy tenants. This is called 'ex-proprietary right.' In Oudh the so-called 'occupancy tenant' corresponds to the 'ex-proprietary tenant' in the Province of Agra, and no tenant acquires occupancy rights by prescription; the rent of the occupancy tenant cannot be enhanced beyond a rate 12½ per cent. lower than that ordinarily paid for similar land in the neighbourhood by cultivators with no such right. Other tenants in the Province of Agra are merely tenants-at-will, with no rights or privileges beyond those contained in their leases or agreements. In Oudh any person admitted to the cultivation of land acquires certain rights. He is entitled to hold it for seven years at the same rent, and at the end of the period the rent cannot be enhanced by more than 6¼ per cent., whether let to the sitting tenant or to a new-comer. On the death of a tenant the limitation is broken and a fresh contract may be made. Some other peculiarities of tenure are found in the KUMAUN DIVISION and in DEHRA DŪN DISTRICT.

From the earliest times in India the state has been entitled to a share of the actual produce of the land, and the famous settlement made by Akbar merely carried out this principle in detail. For convenience the share of produce was often converted into a money rate, and when British rule commenced money rates were not uncommon. The Benares Division came under the sovereignty of the Company in 1775; but for more than thirteen years the administration was left to the Rājā of Benares, who at first paid a fixed sum of 23 lakhs. After the disturbance of 1781, which arose out of a claim by Warren Hastings for an increased payment in time of war, this was raised to 40 lakhs; but in 1788 Jonathan Duncan, who had recently been appointed Resident at Benares, was authorized to interfere in the system of revenue management, which had become the cause of much oppression and

distress. The strict principles laid down by Akbar had been neglected, and the revenue was simply levied at the highest sum which anybody would offer. Duncan fixed standard rates for the estimated produce of different classes of soil and standard prices, and obtained valuations of the produce of *parganas* from the revenue officials called *kānungos*. The share of the gross produce to be taken as revenue varied in different places, and was sometimes as much as a half. Some land paid specific rates per *bīgha*. The estimates were checked by local inquiry and by comparison with earlier assessments. The *āmil* or native collector received one-tenth of the revenue fixed, and various smaller deductions were made in favour of the *kānungos* and the *zamīndārs*. The summary settlement thus made yielded 35¾ lakhs, rising to 38 lakhs. It was then carefully revised with a view to the demand being made permanent; the revision was completed in 1790, and after a few corrections the settlement was declared unalterable by Regulation I of 1795.

A similar system was applied to what is now the Province of Agra, and it was intended to make two settlements for three years each and a third for four years, and then fix the demand in perpetuity. But the Court of Directors refused to sanction a permanent settlement, and short-term assessments were continued. The system was, however, very defective. It usually depended on the estimates of the *kānungos* and the accounts of the *patwāris*, both of which were unreliable, checked by information derived from enemies of the *zamīndārs*.

After much discussion, Regulation VII of 1822 provided new and improved methods. These included a survey, the preparation of a careful record of all rights, and a description of the rates of cash rents and the method of division of produce in grain-rented land. The assessment was regulated so as to leave the *zamīndārs* a net profit amounting to 20 per cent. on the revenue payable by them. This Regulation marks the first advance towards a systematic and detailed assessment on the rental 'assets' of each village; but the inquiries involved were elaborate and minute, and during the next ten years little progress was made. In 1832 it was stated that the settlement of one District would not be finished for sixty years. A good deal of information was obtained regarding actual 'assets' and rates; but in determining the 'assets' attention was chiefly paid to estimates of the produce, which were calculated by various methods, while the process of bargaining between the Collector and the *zamīndār* still continued. A few officers had already realized that the simplest way to ascertain the 'assets' was to obtain a correct rent-roll. In 1832 inquiries into the amount of produce were stopped, and Regulation IX of 1833 finally laid down the new procedure. Deputy-Collectors were appointed to assist in the supervision and miscellaneous work. Village

maps and a field-book were prepared by revenue surveyors, and made over to the *tahsīldār* and *kānungo* for completion. A rent-roll was then prepared, and statements of the revenue demand, receipts, and balances for ten years were drawn up. The Collector inspected the village and fixed the demand on a consideration of these papers, the Government share of the rental 'assets' amounting to 66 per cent. or two-thirds. The settlement thus made was fixed for a period of approximately thirty years in each District, and this has been the ordinary term in all later settlements.

Various improvements were made in the second regular settlement. The assessments were based upon the average rental 'assets' of estates, as to which more accurate information had now become available. But the *patwāris*' papers were still far from reliable, and the 'assets' were calculated on rates of rent found by the Settlement officer to be paid in the locality. *Parganas* were divided into circles, the soils in each circle were classified, and standard rates of rent were selected for each class. Up to 1868 the soil of each field was separately classified; but in that year the work of checking soil classifications was lightened by a system of demarcating blocks of soils on village maps, invented by Mr. (now Sir) Charles Elliott. It is important to notice that the estimated rental, on which the assessment was based, might be higher than the amount actually paid in a given village, but it represented the rental which the Settlement officer believed, from his inspection of similar villages, could be realized. The proportion of rental 'assets' taken as revenue in this settlement was fixed at 50 per cent., or one-half, and has not been altered since.

In spite of frequent recommendations by the Government of India, the Court of Directors had refused to sanction a permanent settlement in the early years of the nineteenth century. When the second regular settlement was commencing the Mutiny suddenly broke out and threw back progress in every direction. Famine in 1860 caused more depression, and the idea of a permanent settlement was revived. While details were being discussed, important facts were discovered. In some tracts rents were found to be increasing enormously, while in others they were so low that an assessment at the rate prevailing in neighbouring tracts would have been excessive. In 1874 the question was laid aside for a time, but a few years later financial considerations led to the issue of rules that settlements were to be revised only where an increase of revenue was expected, or where the distribution of the old assessment had become unequal. In 1882 an attempt was made to devise a scheme by which revenue should be enhanced only in the case of an increase in the area under cultivation, a rise in prices, or an increase in production due to improvements made at Government expense. Detailed criticism showed the

impracticability of the scheme, and the idea of a permanent settlement was abandoned in 1885.

The discussion led, however, to simplification of procedure. As early as 1872 several District officers had expressed the view that the *patwāris'* records could be so improved in accuracy as to form a reliable basis of assessment, and in the Rāe Barelī District of Oudh they had in fact been so used. Steps were taken to provide for more careful preparation and check of these papers, and revised settlement rules were issued in 1884 and 1886. Briefly, the change made lay in the fact that, while the important factor in assessment hitherto had been the *pargana* or circle rate ascertained by inquiry and selection, the new system took the actual rent-roll recorded by the *patwāri* as the basis of the assessment and used the *pargana* or circle rates as a check. No prospective increase in rents, except an increase which could be claimed at once, can now be considered in calculating the 'assets.' Concessions are made for improvements carried out at the cost of private individuals or by loans from Government. In 1894 the cost of settlements was materially cheapened by improvements in the method of survey and revision of records, and the re-settlement of a District now takes only about three years instead of six to ten years as at the second settlement.

In Oudh the assessment has been one-half of the rental 'assets' since annexation. A summary settlement was made in 1856, but the records generally perished in the Mutiny. A second summary settlement followed in 1858, and the first regular settlement was made between 1860 and 1878, and the second between 1893 and 1903. The rules in force have been similar to those in the Province of Agra.

The incidence of land revenue is approximately half of the incidence of rent 'assets,' which has already been discussed. There is no definite relation between the assessment and gross produce. The most recent estimate places the share of the gross produce received by the landlord at one-fourth to one-fifth in grain-rented tracts and one-sixth to one-seventh in cash-rented areas, and the revenue demand is rather less than one-half of these proportions. There is no difference in the standard of comfort or in the prosperity of the masses between the permanently-settled Districts of the Benares Division and the adjacent Districts of Agra and Oudh where periodical revisions are made, though it was calculated in 1889 that the Benares Division, under the rules prevailing elsewhere, would yield a revenue 15 to 20 lakhs higher than its present assessment of about 47 lakhs. The experience of the famine of 1896–7 showed that no connexion can be traced between the incidence of the land revenue demand and distress due to famine, which depends on other more important factors.

In agricultural calamities of any kind a Collector has power to

postpone the collection of revenue for six months, and a Commissioner for a year longer. If great loss of crops takes place, the Government may suspend or remit revenue and at the same time order the suspension or remission of rent. The policy of giving immediate relief is followed, and when scarcity is imminent, owing to the failure of rains, the agricultural position is closely watched. In *mahāls* subject to fluvial action the assessment is revised every five years, and a similar system is now being introduced into the whole of BUNDELKHAND, which is peculiarly liable to fluctuations in prosperity.

(United Provinces) Act II of 1900 has provided a system of entail in OUDH which can, however, be applied only in the case of *talukdārs* and grantees whose estates are subject to the rule of primogeniture. Distress and indebtedness in Jhānsi District led to the enactment of the Jhānsi Encumbered Estates Act (XVI of 1882), which provided for inquiry into debts by a special judge, and for liquidation of the amounts found to be justly due, with the aid of loans from Government. The operations were successful; but the effect was not lasting, as there was no restriction upon the right of transfer, and the proprietors, whose debts had been liquidated, soon began to incur fresh liabilities. Similar provisions have now been applied to the whole of BUNDELKHAND by (United Provinces) Act I of 1903; and this has been supplemented by another Act (II of 1903), which limits alienation of land, by either sale or mortgage, from members of specified agricultural castes to members of other castes.

Miscellaneous revenue.

A large revenue is derived from the opium monopoly, which is, however, an item of Imperial receipts. The administration is directed by an Opium Agent, who is now appointed from the Indian Civil Service in these Provinces, though entirely subordinate to the Board of Revenue in Bengal. He is assisted by twenty sub-deputy and about thirty assistant opium agents. The cultivation of poppy without a licence is forbidden under Act XIII of 1857 in all parts of the Provinces, except Jaunsār-Bāwar to the north of Dehra Dūn. It is allowed only in certain Districts selected so as to render supervision easy, and it is forbidden in the neighbourhood of most large cities to prevent smuggling. The largest area is in Oudh and the Agra Division; but cultivation is also permitted in parts of the Benares, Allahābād, Rohilkhand, and Gorakhpur Divisions. During the rains cultivators collect at convenient centres and receive advances for the coming season. The poppy is sown in October, and the opium is obtained by lancing the heads and scraping off the dried juice in the following February and March. The opium is collected, weighed, and classified at fixed centres, where the cultivators are paid at rates varying with the class of opium supplied by them. It is then packed and forwarded to the factory at Ghāzīpur, the head-

quarters of the Agent. Here it is reduced to a uniform consistence, which varies according as the drug is intended for export or for consumption in India. The accounts of the cultivators are finally adjusted after the opium has been again examined in the factory. In 1903 they received a little more than Rs. 6 per seer.

The principal statistics of opium cultivation and production are given in the following table:—

Years.	Area in acres.	Number of chests for export.	Gross value.	Net revenue.
			Rs.	Rs.
1881-90 (average) .	259,182	28,477	3,33,23,530	2,07,89,988
1891-1900 (average) .	289,163	21,509	2,69,65,808	1,47,26,975
1901	386,262	23,007	3,38,60,555	1,69,12,909
1903	374,817	22,424	2,87,36,510	59,78,265

The system of giving advances for cultivation and also for the construction of wells makes poppy cultivation popular within limits. High castes object to growing poppy, both on religious grounds and because the cultivation requires a great deal of light labour. In the case of low castes this is supplied by the women and children of the cultivators; and the area undertaken by each cultivator is limited by the amount of domestic labour which he can command, as the profits rapidly diminish when hired labour is required. The crop which competes most with the poppy is wheat, especially when the cultivators anticipate an unfavourable season, or high prices for wheat. The net revenue depends chiefly on the price realized for the opium exported, which is technically known as 'provision' opium, and to a small extent upon the consumption of excise opium, the cost price of which, at present taken at Rs. 8½ per seer, is credited to the Opium department.

The Salt department of Northern India, including other Provinces, is administered by a Commissioner directly under the Government of India, with a Deputy-Commissioner and a Personal Assistant. In the United Provinces there are two divisions of the Internal branch, each under an Assistant Commissioner, with head-quarters at Agra and Allahābād respectively; the Agra division contains three circles and the Allahābād division two, each in charge of a Superintendent.

To prevent the illicit manufacture of salt, licences are issued under Act XII of 1882, and the rules made under it, which prohibit the manufacture of salt, saltpetre, every form of sulphate and carbonate of soda, and all other substances made from saline earth, except in accordance with the terms of the licences. The annual charges for these are Rs. 2 for crude saltpetre, or sulphate of soda (by artificial heat), or carbonate of soda; Rs. 10 for sulphate of soda by solar heat; and Rs. 50 for refined saltpetre, including eduction of salt. Purified salt

may not be removed from a factory till after examination by an officer of the Salt department and payment of the excise duty of Rs. 1-8[1] a maund (82$\frac{2}{7}$ lb.). Unrefined salt, which is so impure as to be inedible, may be excised for industrial purposes on payment of R. 1 a maund. Refiners, if they prefer it, are also allowed to destroy in the presence of an official the salt produced by them. Sulphate of soda must be examined by the salt officials before it is allowed to leave a factory; but it is not liable to any duty, and other substances may be disposed of without examination, though the preventive staff exercises a very close supervision over all licensed factories.

The quantity of salt and refined saltpetre educed in recent years is shown below, with values where these could be ascertained. Crude saltpetre is not included, as no account is kept of its manufacture:—

Minerals.	1880-1.		1890-1.		1900-1.		1903-4.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		Rs.		Rs.		Rs.		Rs.
Purified salt } Impure „ }	1,344	...	1,504	1,38,179	1,301	1,31,176	1,777	1,67,076
			444	...	3,150	...	3,706	...
Refined saltpetre .	4,150	6,21,412	6,566	10,94,650	4,448	9,68,744	5,526	12,03,544

The consumption of salt in the Provinces has increased from 2,656,000 maunds in 1880-1 to 3,698,000 in 1890-1, 3,685,666 in 1900-1, and 3,974,462 in 1903-4, representing a consumption in seers per head of about 2·4, 3·3, 3·1, and 3·3 respectively.

The amount of salt produced locally does not form 1 per cent. of the total amount consumed in the Provinces, more than half of which comes from Sāmbhar in Rājputāna. Saltpetre, both refined and unrefined, is largely exported to Calcutta, and the manufacture depends to a considerable extent on the demand and price there. Thus the number of licences issued for manufacture of crude saltpetre varied from 9,239 in 1895-6 to 4,896 in 1900-1 and 5,015 in 1903-4.

The receipts of the Salt department in 1900-1 were: licence fees, Rs. 22,000; duty, Rs. 89,000; total, Rs. 1,11,000; and in 1903-4 Rs. 20,000, Rs. 73,000, and Rs. 93,000 under the same heads.

The Excise department is administered by a Commissioner of Excise subordinate to the Board of Revenue. The superintendence in Districts is entrusted to a member of the District staff in addition to his ordinary duties, assisted in most cases by an excise inspector. The excise revenue is derived from three main heads—liquor, opium, and drugs—and consists of duty and licence fees for preparation or vend.

The excise receipts from liquor, which form about 70 per cent. of the total excise revenue, fall under various heads. Country liquor is usually

[1] Reduced from Rs. 2-8 to Rs. 2 in 1903, and to Rs. 1-8 in 1905.

manufactured in certain distilleries belonging to Government by licensed distillers, who supply their own plant and material, and pay a licence fee of Rs. 3 a month per still. When liquor is issued for retail vend, a still-head duty is levied which is in most Districts Rs. 2–8 per gallon London proof and Rs. 1–14 per gallon 25° per cent. under London proof. The duty is higher in a number of large towns. The right to retail liquor at each of the licensed shops is sold by auction. In the less accessible tracts on the northern, eastern, and southern boundaries of the Provinces, the combined right to manufacture and sell country liquor at specified shops is sold by auction, and no still-head duty is levied. The right to sell the sap of palm-trees (*tāri* or *sendī*) is also sold by auction, and in some Districts this includes the preparation of fermented liquors made from herbs or rice. Rum is made in a private distillery near Shāhjahānpur after European methods, and pays a duty of Rs. 4 per gallon when issued for consumption in these Provinces or the Punjab, Rs. 5 in the case of exports to the Central Provinces, and Rs. 6 in the case of Assam and Bengal. A second licence for manufacturing rum has recently been given to a firm in Cawnpore. Malt liquors are brewed after European methods in private breweries at Mussoorie, Lucknow, Nainī Tāl, and Rānīkhet, and a duty of one anna per gallon is levied. No duty besides a licence fee is levied on imported European liquors. The monthly licence fee is ordinarily Rs. 32 for wholesale and Rs. 16 for retail vend, and this includes the right to sell country rum and beer. The receipts on account of country liquor have varied from an average of 34½ lakhs in 1881–90 and 33½ lakhs in 1891–1900 to 43 lakhs in 1900–1 and 61 lakhs in 1903–4. The receipts in the same periods have been: for English liquor (including duty on rum exported to other Provinces), 3 lakhs, 4½ lakhs, 5¾ lakhs, and 8¼ lakhs; and for *tāri*, 1 lakh to 1¾ lakhs.

The drugs, other than opium, used in the Provinces are those derived from the hemp plant (*Cannabis sativa* or *indica*). Both *gānja* (the unfertilized female flowers) and *charas* (the resin) are smoked, while *bhang* (the dried leaves) is used for the preparation of a drink or mixed with sweetmeats. *Gānja* is obtained from Bengal, the Central Provinces, or Central India, and pays a duty varying from Rs. 6 to Rs. 9 per seer in the case of Bengal, and Rs. 4 in other cases. *Charas* is chiefly imported from Central Asia, but a little is made in Kumaun, and it pays a duty of Rs. 4 to Rs. 6 per seer. The right to sell all three drugs, including *bhang*, which is collected from the wild plant in many Districts and from the cultivated plant in Farrukhābād, is sold by auction[1]. The total receipts have risen from an average of 5¾ lakhs in 1881–90 and

[1] In 1906 a duty of Rs. 8 per acre was levied on the cultivation of the hemp plant, and a duty of Rs. 4 per *maund* on *bhang* imported from certain Districts where it is cultivated or grows spontaneously.

$8\frac{1}{4}$ lakhs in 1891–1900, to $12\frac{3}{4}$ lakhs in 1900–1, and $18\frac{1}{4}$ lakhs in 1903–4.

Opium is supplied from the Ghāzīpur factory through District treasuries to licensed vendors at a price varying in different Districts from Rs. 16 to Rs. 18 per seer. The difference between this price and the cost of the opium, which is taken at Rs. $8\frac{1}{2}$ per seer, is credited to excise receipts. In some Districts, chiefly those in which poppy is grown, the Government treasurers and their assistants are allowed to sell the drug; but the right to sell at licensed shops is sold by auction. The total receipts have risen from an average of 7 lakhs in 1881–1900 to $7\frac{1}{2}$ lakhs in 1900–1 and 8·3 lakhs in 1903–4.

The total net receipts from excise have increased from an average of 51 lakhs in 1881–90 and 54 lakhs in 1891–1900 to 70 lakhs in 1900–1 and 97 lakhs in 1903–4, and the incidence of net receipts per head of population in annas has similarly risen from 1·3 to 1·7, 2·3, and 2·9. This increase is largely owing to higher taxation, for it is the policy of Government to raise excise duties as long as the danger of smuggling is not incurred. Public opinion is consulted in regard to the location and number of shops. Although the use of intoxicants is forbidden by the sacred books of both Hindus and Muhammadans, excise was a form of revenue under native rulers. The moderate use of opium as a drink or in pills is not usually condemned, though smoking the drug is reprobated. Liquor is used chiefly by the lower castes, and when consumed by members of higher castes the practice is concealed, except in the case of individuals who have abandoned the strict rules of caste. The highly literate caste of Kāyasths is making successful efforts to discourage intemperance among its members. The use of *bhang* as a drink is hardly more injurious than the use of tea; but *gānja* and *charas*-smoking are condemned. The modern religious movements all favour temperance; but the effect of English education is double. In so far as it weakens the caste system, or tends to act as a solvent on orthodox beliefs, it removes a check on intemperance, especially in regard to the use of liquor. On the other hand, it has been beneficial in producing higher ethical standards.

The stamp revenue is divided into two main heads, according as it is derived from judicial or non-judicial stamps. The net receipts under the first head have risen from an average of 46 lakhs in 1881–90 and 53 lakhs in 1891–1900 to 62 lakhs in 1900–1 and 63 lakhs in 1903–4. Variations are due to the same causes as variations in litigation, which have already been referred to, and to alterations in the law. Net receipts from non-judicial stamps have risen from an average of 15 lakhs in 1881–90 and 17 lakhs in 1891–1900 to 18 lakhs in 1900–1 and 19 lakhs in 1903–4. They are largely affected by agricultural conditions.

The net revenue from income tax has varied from an average of 21 lakhs in 1886–90 and 23 lakhs in 1891–1900 to 25 lakhs in 1900–1 and 20 lakhs in 1903–4[1]. Only about three persons are assessed in every 2,000 of the population, and the incidence is 8 pies per head.

Local and municipal.

It has been explained in dealing with finance that up to 1871 the only revenue over which the Provincial Government had free control was that raised from a few sources, such as ferries, pounds, and cesses on land. The cesses were voluntary payments which the *zamīndārs* engaged to pay along with land revenue. They replaced the old liability to maintain roads, post lines, and village police, and also provided funds for schools. In 1871 the cesses received legal sanction; and then amounted to 10 per cent. of the revenue demand in the Province of Agra[2], and 2½ per cent. in Oudh, where the *zamīndārs* were still liable for the pay of the village police. The receipts formed a Provincial fund, from which allotments were placed at the disposal of District committees, half the members of which were non-officials appointed by Government. These committees replaced a number of distinct bodies which for varying periods had assisted District officers in the management of roads, education, and dispensaries; and their functions were confined to these matters. The rates were increased in 1878 by an additional famine cess of 2 per cent. on the revenue in each Province, and from the same year the difference between Provincial and Local expenditure became more clearly marked.

In 1882 a scheme was developed which became law as Act XIV of 1883. This provided for a board in each District, with power to supervise, subject to certain restrictions, the control and administration of roads, schools, dispensaries, and similar public institutions, besides other local works for the comfort, convenience, or interest of the public. There were also local boards in *tahsīls*, but these had no independent authority and no longer exist. The Act provided for the establishment of a fund in each District, to which were credited the receipts from local rates, less deductions for certain items, such as watchmen, District post, Provincial railways and canals, and the famine rate, which were not under the control of the boards. The net receipts on account of pounds and ferries were also allotted, and the District fund obtained other receipts from the services controlled by the board. The practical effect of the arrangement made was that the cost of the services controlled by the boards exceeded the funds at their disposal, and for some years the contribution from Provincial revenues required to make up the deficit was exactly calculated to produce equilibrium. The District funds thus

[1] In this year the limit below which exemption from income tax may be claimed was raised from Rs. 500 to Rs. 1,000.

[2] In the permanently settled Districts the cesses take the form of an acreage rate.

had no balance from year to year, and the system resembled that of Provincial finance before 1870. Up to 1897 the boards were chiefly consultative bodies; and the members, with some exceptions, took little interest in any branch of the administration, except schools and hospitals, partly no doubt owing to the absence of financial independence.

In 1897 steps were taken to make the District funds real entities. Opening balances were allotted from a grant of 4 lakhs made by the Government of India, and an attempt was made to ascertain the normal income and expenditure in each District. Annual grants were then made from Provincial revenues sufficient to provide a small margin, and it was contemplated to fix these for a term of years; but this was not found possible, owing to the unsettled condition of Provincial finance. Balances were, however, carried forward from year to year; and (U.P.) Act II of 1906 has paved the way for more complete financial independence by abolishing all deductions from the rates, except those for village watchmen. By (U.P.) Act III of 1906 the sphere of usefulness of the boards has been considerably enlarged. The famine cess imposed in 1878 was abolished in 1905, and in the same year large grants-in-aid were made from Imperial revenues. In times of scarcity District boards open small relief works to test the existence of distress; but when distress is established, these are taken over by the Public Works department. In 1903–4 there were 48 District boards in the Provinces, with 938 members, of whom 255 were appointed *ex officio*, 74 were nominated, and 609 were elected. The general statistics of the income and expenditure of the boards since 1897–8 are given in Table X on page 270.

When the province of Benares was acquired, it was found that minor sanitary improvements were regularly carried out by the shopkeepers of Benares city, who privately contributed a small sum annually and arranged for its expenditure. Towns were, however, usually administered by the *kotwāl* or police officer, who was responsible for elementary conservancy and the regulation of the residences of 'butchers, hunters of animals, washers of the dead, and sweepers,' in addition to his police duties. The early British administration of towns was confined to the introduction of regular police in the more important places; but by Regulation XVI of 1814 ward committees, consisting of householders, were appointed in the larger towns to assess and collect a tax from which subordinate police were paid. Act XV of 1837 made it legal to apply savings from this rate to improvements in the towns where it was levied, and committees of non-official persons were appointed to assist in the supervision. The first real attempt at municipal self-government was effected by Act X of 1842. This authorized the Government to appoint representative committees in any town where

two-thirds of the householders applied for the extension of the Act. The committees so formed had power to impose a rate of 5 per cent. on the annual value of premises, and the proceeds were applied to improvements. The Act was not successful and was repealed by Act XXVI of 1850, which gave the Government a freer hand in the constitution of municipal committees, and also allowed town duties or octroi to be imposed, while the committees were authorized to make rules, with the sanction of Government, defining and prohibiting nuisances. Act XXVI of 1850 was applied to Oudh, but in 1864 a special Act was passed to regulate the Lucknow municipality. In 1867 the municipal law in Oudh was amended, and a year later an important Act (VI of 1868) was passed for the Province of Agra. This provided for the gradual introduction of the elective system, and enlarged the basis of taxation by permitting a tax on houses and land up to 7½ per cent. of the annual value, and also taxes on professions and trades, on carriages and animals used for draught or burden, and tolls, besides octroi. The duties of the municipal committees were defined more clearly, and expenditure on education was permitted. The law in both Provinces was assimilated by Act XV of 1873, which made a few alterations and conferred power to regulate carriages, &c., plying for hire. The next important change was a part of the general scheme for developing local self-government which was set on foot in 1881. Act XV of 1883 provided for the elective principle in all cases, and was extended to all municipalities, except six which were considered backward. Increased functions were allotted to Commissioners with regard to the supervision of municipal work, and the powers of the boards to make rules for the prevention of nuisances were more clearly defined. The Acts of 1873 and 1883 were replaced by (United Provinces) Act I of 1900, which provided for the growing needs of municipal administration. Larger powers were given to deal with matters of public interest and convenience, such as the erection of buildings and the regulation of dangerous and offensive trades, and new taxes were legalized. Since the passing of the Act of 1883 municipal self-government has progressed rapidly, and methods of conservancy, collection of taxes, and the like have been much improved. A great deal has been done to improve the octroi system by facilitating the grant of refunds, and by establishing bonded warehouses; and in Cawnpore, where through trade is very important, a terminal tax at low rates with no refunds has been adopted. The position of municipal servants who receive no pension has been improved by the establishment of provident funds. In 1898 a system of peripatetic audit was instituted to supervise the accounts of both District boards and municipalities, which has been of great value. Municipal self-government is more successful than the District board system; but close supervision and control are stilll required, and the

District Magistrate is generally chairman, though elected by the board in most places. In 1901 there were 104 municipalities, with a total population of 3·3 millions. The population of six towns was over 100,000, that of seventy-two ranged between 10,000 and 100,000, and that of twenty-six was less than 10,000. No change was made till 1904, when sixteen towns were constituted 'notified areas' under (United Provinces) Act I of 1900. The administration of these is simpler than in municipalities; they are managed by small committees appointed by the Government, and only selected portions of the Act are applied to them.

The old law of 1814, requiring the inhabitants of important towns to maintain police for watch and ward, was amended in 1816; and Act XX of 1856 consolidated these rules, and included the provision made in 1837 for expenditure on sanitation. Act XX of 1856, which may be applied to any place not merely an agricultural village, provides for the levy of a rate on annual value, or a tax on circumstances and property, the proceeds being applied to watch and ward and sanitation. The assessment is made by a small committee, which is generally consulted in regard to the expenditure.

The general features of municipal finance are shown in Table XI on page 271. Octroi supplies about half of the total income, and the largest single item of expenditure is on conservancy. The incidence of taxation per head averaged Rs. 1-2-8 in 1900-1 and Rs. 1-4-1 in 1902-3. It is highest in the hill stations, where it rises to Rs. 7-12-11 in Mussoorie and Rs. 7-15 in Nainī Tāl. The total number of members of municipal boards in 1903-4 was 1,395, of whom 1,030 were elected; 345 members were officials and 1,050 non-officials; 267 were Europeans and 1,128 natives. There are now only two places in which the elective principle is not in force.

Public works.

The Public Works department is divided into the Buildings and Roads branch and the Irrigation branch, each of which is administered by a Chief Engineer, who is also a Secretary to Government. The Provinces are divided into three circles and ten divisions for the administration of buildings and roads, and into four circles and twenty divisions for irrigation purposes. Each circle is in charge of a Superintending Engineer, and each division in charge of an Executive Engineer. The whole of the irrigation works constructed or maintained by Government are in charge of the department. Nearly all metalled roads, and also bridges on second-class roads, and generally all works costing more than Rs. 1,000 are in charge of the Buildings and Roads branch, except in municipalities.

Three railways have been constructed at the cost of Provincial revenues: namely, the branch from Dildārnagar on the East Indian Railway to Tārī Ghāt opposite Ghāzīpur, the Cawnpore-Achhnerā

Railway, and the Lucknow-Sītāpur State Railway; but they were transferred to the control of the Director-General of State Railways in 1891. The most important irrigation works within the last twenty years have been the construction of the BETWĀ CANAL, the Fatehpur branch of the LOWER GANGES CANAL, the Māt branch of the main GANGES CANAL, improvements in the Rohilkhand and Tarai Canals, and extensive drainage operations in the Doāb Districts of the Meerut and Agra Divisions. Table IX on page 269 shows that expenditure on other public works rose from an average of 29 lakhs in 1881–90 to an average of 33 lakhs in 1891–1900. The road system of the Provinces was fairly complete by 1881, and improvements since then have chiefly been devoted to metalling. In particular, cart-roads have been made in Kumaun from the foot of the hills to Nainī Tāl, Rānīkhet, Almorā, and the tea plantations and along the pilgrim routes. Important bridges at Kichhā between Bareilly and Kāthgodām and over the Hindan river in Meerut and Muzaffarnagar Districts may be mentioned, and others are now being constructed in Gorakhpur and Sultānpur. The Thomason Hospital and Lunatic Asylum at Agra, the Muir Central College at Allahābād, the Thomason Engineering College at Roorkee, the Judicial Commissioner's Court at Lucknow, the present Government House and Secretariat offices at Nainī Tāl, and Judge's courts at Fyzābād, Alīgarh, and Gondā have all been built or considerably improved within the last twenty years. Owing to the encroachment of the Ganges, the head-quarters station and offices of Balliā District have been reconstructed. Large schemes for water-supply have been undertaken since 1890 in Agra, Allahābād, Benares, Cawnpore, Lucknow, and Meerut, and drainage schemes in Agra, Benares, Farrukhābād, and Cawnpore. Drainage schemes for Lucknow and Fyzābād are now under consideration. Such schemes are drawn up under the superintendence of the Sanitary Engineer with Government, who ranks as a Superintending Engineer.

Army.

The total strength of the army in the Provinces in 1903 was: British troops, 16,554; Native, 15,428; total, 31,982. The whole area of the Provinces is included in the Northern Command and forms part of three divisions. The Meerut division includes Meerut, Chakrātā, Muttra, Roorkee, Agra, Almorā, Bareilly, Chaubattiā with Rānīkhet, Lansdowne, Shāhjahānpur, and Dehra Dūn: the Lucknow division, Lucknow, Cawnpore, Fyzābād, Fatehgarh, Allahābād, Benares, and Sītāpur; and the Mhow division, Jhānsi. There is an arsenal at Allahābād, an army clothing (formerly gun-carriage) factory at Fatehgarh, and a harness and saddlery factory at Cawnpore. There are volunteer corps at Allahābād, Lucknow, Benares, Gorakhpur, Cawnpore, Dehra Dūn, Nainī Tāl, Bareilly, Mussoorie, and Agra, with detachments at many other places. The total strength of the volun-

teers in 1903 was 4,901, of whom 580 were Light Horse or Mounted Rifles.

The Rāmpur State maintains a regiment of Imperial Service cavalry, 317 strong in 1904, besides State troops classed as follows: artillery, 206 with twenty-three guns; cavalry, 152; infantry, 1,159; and *alīgols* or irregulars, 692. The army of Tehrī State consists of 113 infantry with two cannon.

Police and jails.

Under native rule regular police existed only in the larger towns, and *zamīndārs* were held responsible for law and order in rural tracts. In the British administration a distinction has generally been made between the police maintained to keep the peace and to prevent and detect crime, and the police whose duty was confined to watch and ward. A force for the former purpose was established at the cost of Government, while the watchmen or *chaukīdārs* were paid from a special cess in the larger towns and were long maintained by the *zamīndārs* in rural areas, receiving grants of land.

The regular police up to the time of the Mutiny consisted of a number of establishments having no connexion with each other. During the Mutiny these forces melted away with startling rapidity; and on the restoration of order a military police force was raised, consisting of a battalion of infantry and cavalry in each Division, the scale providing for one man to every 1,260 of population and every 4½ square miles of area. In 1860 a Commission sat at Calcutta, and its conclusions were discussed by a local committee sitting at the same time, and by another local committee in 1863. The result was the organization of a force under Act V of 1861, on the model of the Irish Constabulary, in which all the miscellaneous establishments were absorbed. An Inspector-General had already been appointed in 1860, and subordinate to him were two Deputy-Inspectors-General and a Superintendent of Police in each District, except the Kumaun Division. There was also a staff of inspectors, sub-inspectors, head constables, and constables. At the first organization on these principles the strength of the regular police was 32,828 men, and the cost was 49·2 lakhs; but by 1877, when the two Provinces were amalgamated, this had been reduced to a force of 22,767 men, costing 35·8 lakhs. In 1890 a local commission inquired into the working and condition of the force, and recommended an addition of 9½ lakhs to the expenditure of 37 lakhs then incurred. Reforms costing 8½ lakhs were sanctioned, and other reforms costing several lakhs in addition are in progress[1]. The force was then about 25,000 strong, and the changes proposed added only a few hundred men. In 1901 the regular force

[1] Further reforms suggested by the Police Commission of 1902-3 are now being carried out.

cost 54 lakhs, including superintendence (1·6 lakhs), District executive force (48·5 lakhs), and railway police (1·5 lakhs). In 1904 the police force was administered by an Inspector-General, with three Deputies (one of whom was in charge of railways) and two Assistants, forty-six District Superintendents, two Railway Superintendents, and thirty Assistant Superintendents. In recruiting constables, regard is had to caste, physical development, and character. Less than a quarter of the men can read and write, but all the officers are literate. Head constables are recruited from the ranks, and are eligible for higher promotion; but 85 per cent. of the sub-inspectors appointed annually are now recruited directly from men who have passed the University Entrance examination, and only 15 per cent. are promoted head constables. Sub-inspectors are trained at the Police Training School at Morādābād. Increases in the pay of police since the commission of 1890 and the direct recruitment of officers have worked great changes in the force. The Police Training School, founded in 1893, has had valuable results, and large sums have recently been spent in improving the accommodation provided for police officials. Several criminal tribes, such as Barwārs in Gondā, Sānsiās in Kherī, Sanaurias in Jhānsi, and Doms in Gorakhpur, are under surveillance, and efforts are made to provide land for cultivation by them; but progress in reform is slow. There is a reformatory for juvenile offenders at Chunār. No separate detective staff exists; but one of the Deputy-Inspectors-General collates weekly reports received from the Districts, and circulates an account of special crime. Identification of criminals by means of anthropometry was commenced about 1895; but since 1900 more reliance has been placed on finger-prints. The armed police is specially recruited and is armed with Martini rifles. The railway police is under a Deputy-Inspector-General and two Superintendents.

The village *chaukīdārs* in the Province of Agra were paid directly by the *zamīndārs*, generally by grants of land and a share of produce, up to the time of the first regular settlement. From 1833 it was left to the Settlement officer and Magistrate to decide whether the *chaukīdārs* should be paid in cash from the proceeds of a rate at 3 per cent. on the annual value of land, and such a system was introduced in many Districts. From 1855 this system was gradually extended to all Districts. In Oudh, after the Mutiny, it was decided to revert to the old method of holding the *zamīndārs* responsible, and this continued up to 1895, when a system of cash payments was begun and a cess was levied under (United Provinces) Act V of 1894. The number and cost of the *chaukīdārs* is shown in Table XII on page 272.

The number of criminal cases dealt with by the police and the main results are shown in the table on the next page.

The administration of the Jail department is in charge of an Inspector-

General of Prisons, who is a member of the Indian Medical Service. Each of the Central Jails is in charge of a Special Superintendent, who also administers the District jail at the same place. Other District jails are in charge of Civil Surgeons. There is a jail at the head-quarters of almost every District. The main statistics are given in Table XIII on page 273. In 1903 there were six Central jails, forty-four District jails, and six subsidiary jails, the total number of prisoners being 23,147. The cost was nearly 12 lakhs, or Rs. 51·4 per head. The principal industries carried on in jails are weaving cotton cloth, carpets, blankets, and matting, grinding corn, and gardening. In 1903 a sum of 2 lakhs was earned. Tent-making is confined to the Fatehgarh Central jail, and the tents are chiefly made for the public service. Forms are printed in the Central jails at Nainī near Allahābād, and at Lucknow. The mortality in jails is much below that of the population at large, and it is found that prisoners generally increase in weight. Distress invariably adds to the jail population, and in 1897 the number rose to 36,257.

	Average of five years ending 1901.
Number of cases reported	191,558
" " decided in the criminal courts	60,248
" " ending in acquittal or discharge	6,944
" " ending in conviction	53,304

Education.

A college was founded at Benares in 1791 to cultivate the laws, literature, and religion of the Hindus, and to supply qualified assistants for European Judges. In 1823 the Agra College was established from funds left by Pandit Gangādhar. Eight schools were opened at various times between 1825 and 1837 under the direction of the Educational Committee, which were at first chiefly for Oriental learning. From 1835 English education was fostered in accordance with Lord William Bentinck's minute, inspired by Lord Macaulay. The control of education was made over to the Local Government in 1843, and it was at once decided that indigenous schools should be aided instead of the existing institutions described above, which were expensive and not satisfactory: Indigenous schools consisted of those in which reading and writing the vernacular in the Nāgari character and a little arithmetic were taught, and those in which Persian, which till recently had been the court language, was the medium. Text-books in the vernacular were for the first time drawn up and circulated, and rewards were given to deserving teachers. In 1849 a scheme costing half a lakh was sanctioned, which included the establishment of a model school at the head-quarters of each *tahsīl* in eight Districts, and a visitor-general, with a District visitor and two or three *pargana* visitors, in each District. Five years later the Collector of Muttra induced the *zamīndārs* to subscribe a cess by which primary schools were established

for groups of villages, and the system rapidly extended to other Districts. The progress made was commended in the Directors' dispatch of 1854, which laid down a comprehensive scheme for the whole of India. The department was then constituted with a Director, assisted by two Inspectors, and its efforts at first aimed at the establishment of the *tahsīlī* and rural schools described above. With the exception of the two colleges and one high school, secondary education was chiefly looked after by various missionary bodies, which then maintained two colleges at Agra and one at Benares, besides ten schools. District schools were not generally established till 1867. In Oudh the first educational institutions were District schools, chiefly intended to educate the children of the higher classes; these were started by private subscriptions, aided by Government grants, in every District between 1859 and 1862. *Tahsīlī* schools, in some of which English was taught, were opened between 1861 and 1865; and in 1864 a department was constituted with a Director and two Inspectors, and funds were provided for primary education by a cess similar to that contributed in the Province of Agra. When the Provinces were united in 1877 education in Oudh was more backward than in Agra; but much has been done to improve it. University education in the modern sense commenced in 1860 with the affiliation of colleges to the Calcutta University; and in 1872 the growing needs of the Provinces led to the foundation of the Muir Central College at Allahābād, which was intended to be the focus of an improved system. The Allahābād University was constituted in 1887.

In 1904 the department was administered by the Director, an Assistant Director, six Inspectors, and eleven Assistant Inspectors. The professorial staff consists of two Principals, eleven Professors, two Assistant Professors, two Law Readers, and the Principals of the Training College and Reformatory School. The posts of Assistant Director, three Inspectors, two Principals, and six Professors belong to the Indian service and are filled by recruitment in England; the remaining posts are Provincial and filled in India. Public schools are almost entirely maintained by the District and municipal boards. The Inspector manages District-board English schools, Normal schools, and the Training College, inspects all other English schools in his circle, and exercises a general control over subordinate inspecting officers. The Assistant Inspector supervises vernacular middle schools and the work of the District inspecting officers. The latter include forty-seven Deputy- and eighty-one Sub-Deputy-Inspectors, whose work is confined to all public vernacular schools in the Districts to which they are attached.

Up to 1904 the University Senate consisted of fellows, who were either *ex officio*, or appointed by the Chancellor, or elected by the Senate, with the provisos that the number of elected members might not exceed

the number appointed, and that the total number of fellows might not be less than thirty. The Senate appointed a Syndicate from among its members, and also constituted Faculties. In 1904 there were seventeen *ex-officio*, forty-two nominated, and forty-two elected fellows. By Act VIII of 1904 the number of fellows may vary between forty and forty-five, of whom ten shall be elected by the Senate or by registered graduates, five by the Faculties, and the remainder nominated by the Lieutenant-Governor in his capacity of Chancellor.

The number of Arts colleges was sixteen in 1891, and twenty-eight in 1901 and 1904; but many of these are merely collegiate classes attached to schools. The principal colleges in 1904 were the Government institutions at Allahābād and Benares; aided colleges at Lucknow (Canning College and Women's College), Agra (Agra College), Alīgarh, Bareilly, Gorakhpur, Cawnpore, and Meerut; and unaided colleges at Agra (St. John's), Lucknow (Reid Christian College), and Benares (Hindu College).

The Government Sanskrit College at Benares imparts instruction in Sanskrit up to the highest standard, while Persian and Arabic are taught in special classes at the Muir College, Allahābād, the Alīgarh College, and in a number of aided institutions. Schemes for the extension of Western methods of study are now under consideration.

The Thomason Engineering College at Roorkee, which educates civil and electrical engineers, had 371 students in 1903–4. No degree in engineering is conferred by the University, but certificates of proficiency are given by the college. Since 1896 classes for mechanics, industrial training in printing, photography, and photo-mechanical work, and for art handiwork have been opened. Non-commissioned officers of the British and Native army are also trained here. No colleges teach law exclusively, but in nine institutions classes are held for this subject. A Training College for teachers was opened at Allahābād in 1900 and had forty-eight students in 1903–4.

In 1903–4 the total University expenditure was Rs. 49,000, which was met almost entirely from examination fees. Government colleges cost 3·8 lakhs, aided colleges 2 lakhs, and unaided colleges Rs. 84,000. Four years' attendance is required for the attainment of the B.A. degree. The hostel or boarding system is an old one, but has been greatly developed in recent years. In 1903–4, out of 1,944 students in colleges, 796 were residing in hostels, chiefly unaided. The principal statistics of University education are shown in the table on the next page.

Secondary schools are divided according to the curriculum into high and middle schools. In the former English is taught up to the standard of the University Entrance and the School Final examinations. Middle schools are divided according as English is or is not taught. The number of secondary schools for boys rose from 487 in 1891 to 502

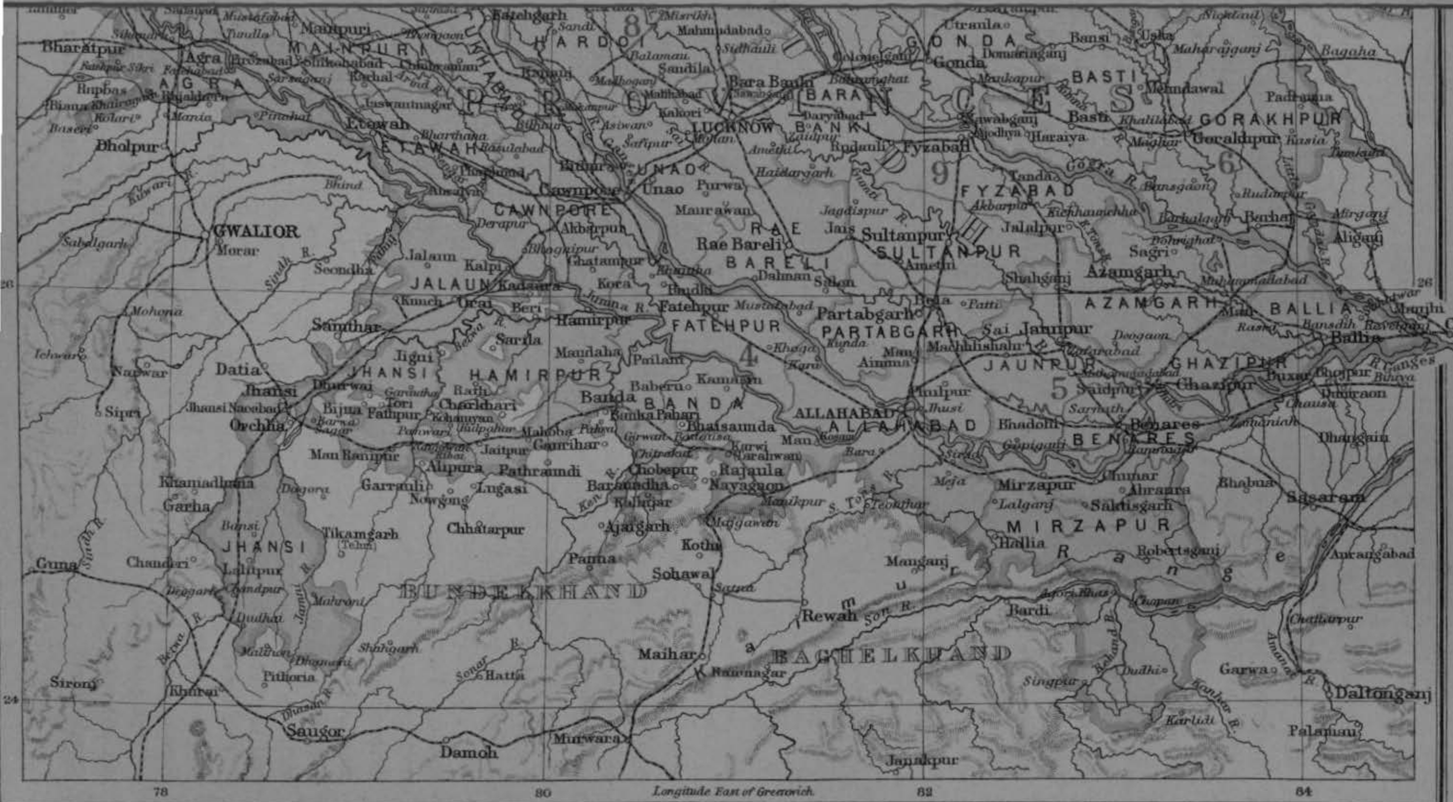
in 1901 and 508 in 1904; and the number of scholars from 51,420 to 66,746 and 71,827. Of these schools 46 were maintained by Government, including 34 high schools; 313 were maintained by District and municipal boards; 110 were aided schools, and 36 were unaided. Grants to aided schools are given with regard to the class of institution, the expenditure incurred on tuition by the managers, the number of pupils under instruction, and the general condition of the school. The ordinary grants are Rs. 750 for the high section, Rs. 400 for the upper middle section, and Rs. 250 for the lower middle section of a school; but these are liable to reduction, and may also be supplemented by grants at rates not exceeding Rs. 3 for each scholar in the high or middle section, Rs. 2 in the upper, and Rs. 1½ in the lower primary sections. The proportion of the male population of school-going age under secondary instruction in 1901 was 1·81 per cent. Teachers in middle schools are paid from Rs. 8 to Rs. 25 a month.

	1880-1.	1890-1.	1900-1.	1903-4.
Matriculation	297	606	810	942
First or Intermediate in Arts or Science	48	204	197	364
Ordinary Bachelors' Degrees	24	105	167	223
Higher and Special Degrees	7	11	29	24

NOTE.—From 1890-1 onwards, the numbers represent all the results at the Allahabad University, including students from other Provinces and States.

Primary schools are divided into two sections. In the lower section reading, writing, arithmetic up to the four compound rules, elementary geography, drawing, object lessons, and drill are taught. In the upper section the same subjects are taught to a higher standard. The number of schools for boys has risen from 4,758 in 1891 to 6,982 in 1901 and 8,070 in 1904; and the number of pupils from 149,262 to 262,659 and 330,387. Up to 1895 the old system of aiding indigenous schools had been gradually discontinued, but it was then revived with very beneficial results. Primary education is almost entirely in the hands of the District and municipal boards, which managed 5,320 schools in 1904, while Government managed only 14; 2,644 were aided, and 90 were privately managed without aid. Teachers in primary schools must hold a certificate of having passed the Normal school examination, unless certificated men are not available. The minimum rate of pay is Rs. 8 a month, and the maximum about Rs. 15.

The number of institutions for female education has increased from 391 in 1881 to 499 in 1891 and 637 in 1901, and the number of pupils from 9,422 to 13,870 and 21,314. In 1903 there were 800 institutions with 26,048 pupils. Though numbers have increased the total results are still very small, and in 1901 only 0·62 per cent. of the female population of school-going age was under instruction. There is a direct



The Edinburgh Geographical Institute

J. G. Bartholomew

prejudice against female education in most parts of the Provinces, though the Arya Samāj and a few advanced natives, especially in the larger towns, are striving to remove it. Missionary enterprise has done much, especially in the Meerut and Rohilkhand Divisions, where the American Methodist Mission is at work. In 1900 the Protestant missions in these Provinces had 13,220 girls under tuition, and were attempting to educate 14,245 pupils in *zanānas*. Government has now reopened a Normal school for women at Lucknow, and special efforts are being made by grants from Provincial revenues and District board funds.

In 1904 four training schools for masters, with 475 students, were maintained by Government. One Government school for training mistresses contained twenty-one students, and three private schools had forty-five female students. There were two medical schools at Agra for male and female students, with 260 scholars on the rolls. An industrial school is maintained at Lucknow, and industrial classes also exist in Christ Church College at Cawnpore. The Agricultural School at Cawnpore contained fifty-nine students, most of whom were attending to qualify as *kānungos*. Commercial classes exist in a few schools and colleges, notably at the Reid Christian College in Lucknow, where shorthand and typewriting are taught. The Imperial Forest School at Dehra Dūn teaches forestry and is divided into two sections; the upper class reads in English for the higher standard or Ranger's certificate, and the lower class in vernacular for the lower standard or Forester's certificate.

The largest institution for Europeans and Eurasians in the Provinces is the Martinière School at Lucknow, which is entirely independent of Government aid and educates about 275 boys and 75 girls. In addition to this, there were forty schools in 1881, forty-five in 1891, and sixty-eight in 1901, with 3,247, 2,815, and 4,211 pupils. In 1904 there were sixty-nine schools for Europeans and Eurasians, of which fifty were aided, and the number of pupils was 4,376. Of these schools, twenty-one are in the two hill stations—Nainī Tāl and Mussoorie—with nearly half the total number of scholars. The examination results show considerable improvement in secondary education. The main results in 1903–4 were: B.A., 4; First Arts, 14; Roorkee, 32; Matriculation, 7; High school, 136; Middle, 186; and Primary, 258. The scholars chiefly find employment in Government service and on railways.

The backward state of education among Muhammadans is not so marked in these Provinces as in some parts of India. At the outset they resented especially the introduction of English education, and the substitution of the vernacular for Persian. The influence of the late Sir Saiyid Ahmad Khān, who founded a school at Alīgarh in 1875—raised to the status of a college in 1878—has caused great changes in the views held. The proportion of Musalmāns to the total scholars in

all public educational institutions is about 15 per cent., which is slightly higher than their proportion to the total population (14 per cent.). It must, however, be noticed that Musalmāns include 36 per cent. of the urban population, and education is much commoner in towns than in rural areas. In 1881 Musalmāns formed 12 per cent. of the students in Arts colleges; they were 17 per cent. in 1891 and 15 per cent. in 1901. Degrees taken by Muhammadans were 14 per cent. of the total in 1891 and 19 per cent. in 1901, and matriculations 18 and 15 per cent. In general school education Musalmāns formed about 21 per cent. of the total in secondary schools in both 1891 and 1901, and 15 and 14 per cent., respectively, in primary schools. The objection that the Government schools make no provision for religious instruction is still felt; and this explains the high proportion of Musalmāns in private schools, where in 1901 they formed 52 per cent. of the total in advanced schools, and 42 per cent. in elementary schools. Judged by the census results for literacy, Muhammadans made slightly more progress than Hindus between 1891 and 1901. The knowledge of English is more common among Muhammadans than among Hindus.

The proportion of the population of a school-going age under instruction has increased from 3·4 per cent. in 1881 to 4·1 per cent. in 1891, 6·1 per cent. in 1901, and 7 per cent. in 1904. For boys it was 12·9 per cent., and for girls only 0·75 per cent., in the latest year. A considerable impetus was given by the revival in 1895 of the system of aiding indigenous education. Between 1891 and 1901 the proportion under secondary education increased from 1·4 to 1·8 per cent., while the increase under primary education was from 4·1 to 7·1 per cent. The census figures of 1901 showed that 578 males and 24 females out of 10,000 of either sex could read and write; and the proportions had increased in ten years by 9 per cent. for both sexes together, 8 per cent. for males and 39 per cent. for females. In the Himālayan tract 1,052 males, and in the Central India plateau and eastern plain 706 males out of 10,000 are literate, but in the western plain only 495. By religion, 41 per cent. of Christians, 24 per cent. of Aryas, and 22 per cent. of Jains are literate; but in the case of Hindus and Musalmāns, who form the bulk of the population, the proportion sinks to 3 and 2·8 per cent. The caste system is responsible to some extent for the backwardness of education. Nearly one-fourth of the total number of Hindus are considered so impure that a member of a higher caste after contact with them is required to bathe. Though the schools are open to all, the admission of a boy belonging to one of these impure castes would be resented. Among the middle-class castes, forming 40 per cent. of the total, education is commonly regarded as a useless luxury. In the case of female education one of the chief difficulties is the paucity of female teachers. The labours of the various

missionary bodies have been especially valuable in the case of female education and the education of the lowest castes. Two principal characters for writing are in use in the Provinces, the Persian and the Nāgari, the latter having many local varieties in a cursive form. Out of every ten literate Hindus nine can read and write Nāgari only, or one of its cursive forms, while among Musalmāns six out of seven know the Persian alphabet only.

The main statistics of educational finance for 1903-4 are shown below. The monthly fees in Government schools vary from 2 to 12 annas in the primary sections to R. 1 to Rs. 2 in the middle sections, and Rs. 2½ to Rs. 3 in high schools. In aided schools the fees must be at least 75 per cent. of those fixed for Government schools. Collegiate fees range from Rs. 8 to Rs. 12 a month.

	Expenditure on institutions maintained or aided by public funds in 1903-4 from				
	Provincial revenues.	District and municipal funds.	Fees.	Other sources.	Total.
	Rs.	Rs	Rs.	Rs.	Rs.
Arts and professional colleges	4,00,176	6,910	95,338	77,920	5,80,344
Training and special schools	66,006	89,490	12,056	15,656	1,83,208
Secondary boys' schools	1,21,855	4,53,421	4,30,149	1,73,167	11,78,592
Primary boys' schools	4,717	9,07,650	74,217	28,265	10,14,849
Girls' schools	60,523	70,076	83,945	1,49,236	3,63,780
Total	6,53,277	15,27,547	6,95,705	4,44,244	33,20,773

In 1845, when efforts to spread education were commencing, there was only one native paper in the Provinces not printed in English, and that was in Persian. By 1881 there were 69, and the number rose to 101 in 1891 and 119 in 1901. Of the papers appearing in 1901, 3 were dailies and 3 more were published twice or thrice a week; 11 were in English and 103 in the vernacular (69 in Persian and 34 in Nāgari characters). The total circulation of the vernacular papers exceeds 40,000. The papers with the largest circulations are: the *Rājput* (fortnightly), which is chiefly occupied with the condition of Rājputs; the *Bhārat Jīwan* (weekly), a Hindu paper of moderate tone in politics; the *Sanātan Dharm Patākā* (monthly), which supports the orthodox Hindu religion against the Arya Samāj; *Jāsus* (monthly), chiefly concerned with police cases; *Kānyakubj Hitkārī* (monthly), which promotes reforms among Kānyakubj (Kanaujiā) Brāhmans. The principal political organs in English are: the *Advocate* (twice a week) and the *Kāyastha Samāchār* (now *Hindustān Review*) (monthly), both of which are strong supporters of the Congress; in vernacular *Al*

Bashīr (weekly), which is strongly Muhammadan; *Hindustāni* (weekly), a reproduction of the *Advocate*; *Oudh Akhbār* (daily), a moderate paper which opposes the Congress; *Oudh Samāchār* (weekly), a moderate paper. Taken as a whole the tone of the Press is satisfactory. Government is keenly criticized, often without a due knowledge of the facts. The leading castes, the Arya Samāj, and the *talukdārs* of Oudh all have their own organs. About one-third of the number of papers published in 1901 were in the Muhammadan interest. The *Pioneer*, published at Allahābād, is the chief Anglo-Indian organ.

The total number of publications (books, &c.) registered was 959 in 1891 and 1,449 in 1901. The most striking feature about these figures is the large increase in original works from 723 to 1,399, and the decrease in republications from 104 to 6, and in translations from 132 to 44. Classifying the books by subjects, it appears that in 1901 educational works, which are chiefly school-books, numbered 360, or one-quarter of the total, while in 1891 they had been only 87, or one-eleventh. Books on religious subjects have decreased from 306 to 238, while poetical works have increased from 70 to 266. Novels have risen from 65 to 104. In 1901 the other principal classes of books were History, 77 (59 educational); Language, 196 (178 educational); Philosophy, 44; and Miscellaneous, 387 (73 educational). The headings Arts, Biography, Drama, Voyages and Travels included only 54 books, while out of 30 books on scientific subjects 28 were educational.

Medical.

The Medical department is in charge of an Inspector-General of Civil Hospitals. Every District but Almorā is in charge of a Civil Surgeon, with an Assistant in a few of the larger stations. Medical officers in military employ also hold collateral civil charge at Almorā and Rānīkhet. There are eighty-three Assistant Surgeons in charge of the more important dispensaries, and a large number of Hospital Assistants. The important statistics of medical work are given in Table XV on pages 275 and 276. The number of hospitals and dispensaries has risen from 212 in 1881 to 299 in 1891, 485 in 1901, and 500 in 1903. The increase between 1891 and 1901 was largely due to the inclusion in the returns of more than 100 police, railway, forest, and private dispensaries. The total income in 1903 was 9.4 lakhs, less than half of which came from Provincial revenues, while Local funds contributed 2.5 lakhs, and the income from fees, subscriptions, and endowments was 2.8 lakhs. Expenditure amounted to 8.6 lakhs. The number of beds available was 2,737 for male patients and 1,492 for females, of which 900 were in hospitals and dispensaries exclusively for females. The largest number of beds in any single hospital is 151 at Bareilly. The best-equipped hospitals for native patients are the Thomason Hospital at

Agra and the Balrāmpur Hospital at Lucknow. The Ramsay Hospital for Europeans, opened at Nainī Tāl in 1892, cost more than 2½ lakhs, about half of which was provided from Government funds. The number of visits paid by lady doctors and female hospital assistants to women at their homes in the bazars in 1903 was about 3,800, and more than 300 of these were visits made to native ladies of the *parda-nashīn* class.

There are four lunatic asylums—at Bareilly, Lucknow, Agra, and Benares—with 1,148 inmates in 1903, of whom 281 were criminal lunatics. Out of 327 cases in 1903, the principal causes of insanity were alleged to be *charas*- and *gānja*-smoking 51, spirit-drinking 13, fever 28, epilepsy 23, heredity 17, exposure and injury to brain 14, moral causes 46, and unknown 108.

Inoculation by indigenous methods is not common, but is occasionally practised by the Māli or gardener caste, which is believed to have special influence over small-pox. The statistics of vaccination are shown in Table XV on page 276. A dépôt for the supply of calf-lymph has been established near Nainī Tāl. Small-pox epidemics have decreased considerably with the spread of vaccination.

The system of selling quinine in pice packets was first introduced in 1895. The packets are now prepared in the Alīgarh jail; and in 1903 the amount realized was Rs. 3,099, representing nearly 200,000 packets of 5-grain doses.

The (United Provinces) Village Sanitation Act of 1892 provides for inquiries being made into the sufficiency and purity of the water-supply in villages with a population of not less than 2,000. It was applied experimentally in eight Districts in 1894 and to the whole Provinces in 1896. Part of the funds required may be supplied by District boards, and grants have also been made by Government; but owing to the prejudices of the people progress is slow. The Act also provides for necessary action being taken in villages in the case of epidemics, and for elementary conservancy.

Surveys.

The Great Trigonometrical Survey of India, begun by Colonel Lambton in 1802, was extended over the North-Western Provinces[1] chiefly between 1843 and 1850, and forms the eventual basis on which all modern surveys are made. Before 1823 such other professional surveys as existed were merely of the nature of military reconnaissances. In 1823 the professional survey was begun. Its work consisted in the preparation of maps on the scale of 4 inches to the mile, based on theodolite traverses, and showing the boundaries and sites of villages and all topographical features. Practically the whole of the Provinces were surveyed in this manner, but the records of several Districts were lost during the Mutiny.

[1] Now the Province of Agra.

Up to 1871 cadastral surveys were carried out by the Settlement officers in Districts under settlement. The maps at first were mere eye sketches, showing roughly the position and shape of each field; but in 1852 the introduction of the plane-table resulted in a marked improvement. *Amīns* were the usual agency employed, but occasionally the work was done by the *patwāris* with considerable success.

The scale was 16 inches to the mile, or more usually some nearly equivalent scale of the local unit of measurement. These surveys not being based on scientific data, the areas were unreliable, and the compilation of maps of areas larger than a village was difficult and unsatisfactory. After 1871 the two systems of revenue survey were amalgamated, and cadastral surveys on the 16-inch scale, based on theodolite traverses, were carried out by professional survey parties. In the earlier surveys under this system, in addition to the maps, the survey parties were responsible for the entries in certain of the field-book columns, and in Districts surveyed later they were associated with the Settlement department in the preparation of other portions of the records-of-rights as well. The tracts professionally surveyed between 1871 and 1894 were the Districts of Agra, Muttra, Bāndā, Hamīrpur, and Morādābād, the permanently settled areas in Benares, Mirzāpur, Ghāzīpur, Jaunpur, and Balliā, and the Districts of Dehra Dūn, Gorakhpur, Bastī, Jhānsi (excluding Lalitpur), and Garhwāl. In 1894 survey by *amīns* was replaced by the system of survey by *patwāri* agency. Under this system, in Districts under survey, after the professional traverse operations have been completed, each *patwāri* undergoes a course of instruction, and then, under the supervision of a survey officer assisted by a small professional staff, surveys the villages of his circle and prepares for each a complete preliminary record-of-rights, which is afterwards attested by a Settlement official before assessment. An officer of the Survey of India is in professional charge of the several survey establishments; the methods of survey and check survey are those of the Survey of India, and the Deputy-Surveyor-General is empowered to inspect the work. After settlement the *patwāris* who have been trained are, with the exception of a small minority who fail to qualify, competent to maintain the new maps and records under the supervision of the *kānungos*, a number of whom are also trained during the survey operations. The Districts where new maps and records have been prepared by *patwāri* agency since 1894 are Jhānsi (Lalitpur subdivision), Meerut, Bahraich, Kherī, Shāhjahānpur, Bareilly, Pīlībhīt, Gondā, Farrukhābād, Etah, and portions of Sītāpur, Bijnor, Nainī Tāl, Etāwah, and Alīgarh

In addition to the surveys mentioned, the following areas have been surveyed topographically by the Survey of India: between 1840 and 1870, Sahāranpur, Muzaffarnagar, Meerut, Bulandshahr, Alīgarh,

and some parts of Mirzāpur, on the 2-inch scale; between 1851 and 1853, the Native State of Tehrī, on the ¼-inch scale; Dehra Dūn and the Siwāliks, partly on the 4-inch and partly on the 2-inch scales, between 1873 and 1876; and Kumaun and Garhwāl, on the 1-inch scale in 1886–8.

[H. G. Keene: *Fall of the Mughal Empire* (1876), and *History of Hindustan* (1885).—Official Mutiny Narratives.—A. Führer: *Monumental Antiquities* and *List of Christian Tombs in the North-Western Provinces and Oudh* (Allahābād, 1891 and 1895).—*Census Reports* (Agra), 1848, 1853, 1865, and 1872; (Oudh) 1869; (United Provinces) 1881, 1891, and 1901.—W. Crooke: *Popular Religion and Folk-lore* (1896); *Tribes and Castes of the North-Western Provinces and Oudh* (Calcutta, 1896); *The North-Western Provinces and Oudh* (1897).—W. H. Moreland: *The Agriculture of the United Provinces* (Allahābād, 1904).—T. Morison: *The Industrial Organization of an Indian Province* (1906).—Provincial Monographs on Brass and Copper, Pottery, Dyes, Cotton, Woollen and Silk Fabrics, Ivory- and Wood-carving, Sugar, Tanning, and Gold and Silver Ware (Allahābād, 1894–1905).—District Gazetteers (under revision).—Other authorities will be found under OUDH.] For tables see pages 258–76.

Unjhā (or Unza).—Town in the Sidhpur *tāluka*, Kadi *prānt*, Baroda State, situated in 23° 49′ N. and 72° 26′ E., on the Rājputāna-Mālwā Railway, 56 miles north of Ahmadābād, and 8 miles south of Sidhpur. Population (1901), 9,800. Unjhā is probably the original seat in Gujarāt of the Kadwa Kunbīs, who migrated from Mārwār in the time of the Rājput kings. The Kadwa Kunbīs now constitute about a third of the total population. Among them marriages take place only once in every ten or twelve years, when a large number of them enter the matrimonial state. All girls of the caste more than forty days old must be married on one or other of certain fixed days; and should no husband be found, a proxy bridegroom is sometimes set up and married to a number of girls, who immediately enter a state of nominal widowhood until an eligible suitor appears, when the parents give them in *natra* or second marriage. More frequently even the proxy is dispensed with, and little girls are married to bouquets of flowers, which are treated as actual bridegrooms during the ceremonies and then thrown into a well. The town is managed by a municipality, which receives an annual grant from the State of Rs. 2,000. It possesses Anglo-vernacular and vernacular schools, two *dharmsālas*, local offices, and the large temple of the Kadwa Kunbīs. A well-attended fair is held here once a year.

Untā Dhurā.—Pass to Tibet in Almorā District, United Provinces. *See* ANTĀ DHURĀ.

Untdi.—Petty State in KĀTHIĀWĀR, Bombay.

TABLE I

TEMPERATURE IN THE UNITED PROVINCES

Station.	Height of Observatory above sea-level.	Average temperature in degrees (Fahrenheit) for twenty-five years ending with 1901 in							
		January.		May.		July.		November.	
		Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.
Gorakhpur	257	61·0	23·1	89·1	24·0	85·4	11·9	70·4	23·7
Allahābād	309	61·1	25·6	93·2	27·3	85·9	12·6	69·4	28·0
Agra	555	60·8	24·4	94·1	25·4	87·4	13·2	70·7	28·3
Lucknow	368	60·2	26·5	91·3	27·4	86·1	13·3	68·4	30·4
Roorkee	887	56·8	24·6	88·4	28·1	85·3	14·1	65·5	30·5
Rānīkhet (Hill station)	6,069	46·8	14·0	69·2	17·8	68·6	11·0	55·5	15·1

NOTE.—The diurnal range is the average difference between the maximum and minimum temperature of each day.

TABLE II

RAINFALL IN THE UNITED PROVINCES

Station.	Average rainfall (in inches) for twenty-five years ending with 1901 in												Total of year.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Gorakhpur	1·02	0·51	0·33	0·43	1·42	8·25	13·25	12·61	8·23	4·04	0·13	0·21	50·43
Allahābād	1·05	0·53	0·30	0·13	0·27	5·79	11·39	11·79	5·26	2·42	0·24	0·30	39·47
Agra	0·54	0·30	0·26	0·16	0·56	2·63	9·73	7·77	4·51	0·51	0·08	0·43	27·48
Lucknow	1·11	0·52	0·31	0·08	0·95	5·18	10·94	11·17	5·67	1·14	0·10	0·44	37·61
Roorkee	1·82	1·47	0·71	0·40	0·85	4·86	12·34	12·89	5·77	0·44	0·26	0·75	42·56
Rānīkhet (Hill station)	2·90	2·22	1·94	1·27	2·24	6·11	13·51	13·92	6·67	1·46	0·31	0·97	53·52

TABLE III. Distribution of Population, United Provinces, 1901

District or State.	Area in square miles.	Number of towns.	Number of villages.	Total Population. Persons.	Total Population. Males.	Total Population. Females.	Urban Population. Persons.	Urban Population. Males.	Urban Population. Females.	Persons per square mile in rural areas.
Dehra Dūn	1,193	6	416	178,195	102,826	75,369	39,466	25,071	14,395	116
Sahāranpur	2,228	18	1,628	1,045,230	560,843	484,387	201,634	108,000	93,634	379
Muzaffarnagar	1,651	15	913	877,188	469,243	407,945	134,678	71,507	63,171	450
Meerut	2,362	27	1,494	1,540,175	820,563	719,612	274,975	149,054	125,921	536
Bulandshahr	1,908	23	1,509	1,138,101	599,108	538,993	184,683	96,641	88,042	500
Alīgarh	1,957	23	1,753	1,200,822	634,872	565,950	218,370	116,205	102,165	502
Total, Meerut Division	11,299	112	7,713	5,979,711	3,187,455	2,792,256	1,053,806	566,478	487,328	436
Muttra	1,457	14	837	763,099	409,030	354,069	142,655	76,257	66,398	426
Agra	1,856	8	1,197	1,060,528	568,822	491,706	235,306	124,656	110,650	445
Farrukhābād	1,719	8	1,689	925,812	500,897	424,915	125,899	64,615	61,284	465
Mainpurī	1,697	8	1,380	829,357	451,356	378,001	53,205	28,576	24,629	457
Etāwah	1,694	6	1,474	806,798	437,913	368,885	69,888	36,994	32,894	435
Etah	1,731	18	1,466	863,948	466,787	397,161	112,658	59,319	53,339	434
Total, Agra Division	10,154	62	8,043	5,249,542	2,834,805	2,414,737	739,611	390,417	349,194	444
Bareilly	1,591	12	1,924	1,090,117	585,304	504,813	182,763	96,364	86,399	570
Bijnor	1,875	16	2,132	779,951	406,697	373,254	169,725	84,085	85,640	325
Budaun	1,990	11	1,807	1,025,753	553,120	472,633	107,230	55,485	51,745	461
Morādābād	2,303	15	2,450	1,191,993	631,224	560,769	249,858	125,967	123,891	409
Shāhjahānpur	1,747	6	2,034	921,535	494,919	426,616	120,539	61,105	59,434	456
Pīlībhīt	1,373	5	1,056	470,339	249,615	220,724	54,820	28,064	26,756	303
Total, Rohilkhand Division	10,879	65	11,403	5,479,688	2,920,879	2,558,809	884,935	451,070	433,865	422

TABLE III. Distribution of Population, United Provinces, 1901 (*continued*)

District or State.	Area in square miles.	Number of towns.	Number of villages.	Total Population: Persons.	Total Population: Males.	Total Population: Females.	Urban Population: Persons.	Urban Population: Males.	Urban Population: Females.	Persons per square mile in rural areas.
Cawnpore	2,366	6	1,962	1,258,868	673,932	584,936	218,009	122,088	95,921	440
Fatehpur	1,631	5	1,403	686,391	349,381	337,010	36,704	18,765	17,939	398
Bāndā	3,061	5	1,188	631,058	315,599	313,459	40,652	20,213	20,439	193
Hamīrpur	2,289	7	756	458,542	230,204	228,338	48,375	23,935	24,440	179
Allahābād	2,833	13	3,473	1,489,358	744,654	744,704	217,346	113,997	103,349	449
Jhānsi	3,587	9	1,331	616,759	317,297	301,462	108,737	56,116	52,621	142
Jālaun	1,477	6	837	399,726	206,277	193,449	49,469	25,357	24,112	237
Total, Allahābād Division	17,244	51	10,050	5,540,702	2,837,344	2,703,358	719,292	380,471	338,821	222
Benares	1,009	4	1,972	882,084	445,047	437,037	225,086	116,809	108,277	651
Mirzāpur	5,223	7	4,257	1,082,430	530,075	552,355	110,555	54,644	55,911	186
Jaunpur	1,551	7	3,152	1,202,920	589,828	613,092	74,205	36,843	37,362	728
Ghāzīpur	1,391	7	2,489	913,818	444,735	469,083	69,007	33,342	35,665	607
Balliā	1,249	13	1,784	987,768	473,969	513,799	111,763	52,832	58,931	791
Total, Benares Division	10,423	38	13,654	5,069,020	2,483,654	2,585,366	590,616	294,470	296,146	430
Gorakhpur	4,596	18	7,544	2,957,074	1,470,469	1,486,605	162,244	81,001	81,243	608
Bastī	2,753	4	6,903	1,846,153	935,556	910,597	34,347	18,399	15,948	658
Azamgarh	2,147	12	4,688	1,529,785	757,314	772,471	91,627	45,749	45,878	670
Total, Gorakhpur Division	9.496	34	19,135	6,333,012	3,163,339	3,169,673	288,218	145,149	143,069	636
Nainī Tāl	2,658	7	1,513	311,237	172,970	138,267	39,066	23,427	15,639	102
Almorā	5,416	2	4,928	465,893	236,751	229,142	11,842	7,158	4,684	84
Garhwāl	5,629	3	3,600	429,900	211,588	218,312	7,063	5,136	1,927	75
Total, Kumaun Division	13.703	12	10,041	1,207,030	621,309	585,721	57.971	35,721	22,250	84
Total, Agra	83,198	374	80,939	34,858,705	18,048,785	16,809,920	4,334,449	2,263,776	2,070,673	367

TABLE III. DISTRIBUTION OF POPULATION, UNITED PROVINCES, 1901 (*continued*)

District or State.	Area in square miles.	Number of towns.	Number of villages.	Total Population.			Urban Population.			Persons per square mile in rural areas.
				Persons.	Males.	Females.	Persons.	Males.	Females.	
Lucknow	977	6	932	793,241	414,949	378,292	292,637	154,580	138,057	512
Unao	1,737	10	1,633	976,639	499,015	477,624	67,949	34,479	33,470	523
Rāe Barelī	1,752	4	1,736	1,033,761	510,090	523,671	39,373	19,714	19,659	567
Sītāpur	2,206	9	2,302	1,175,473	619,837	555,636	78,710	41,296	37,414	897
Hardoī	2,286	10	1,888	1,092,834	582,533	510,301	102,115	52,000	50,115	433
Kherī	2,963	5	1,659	905,138	478,629	426,509	33,578	17,870	15,708	294
Total, Lucknow Division	11,921	44	10,150	5,977,086	3,105,053	2,872,033	614,362	319,939	294,423	450
Fyzābād	1,707	9	2,661	1,225,374	619,403	605,971	125,100	65,382	59,718	644
Gondā	2,819	8	2,760	1,403,195	714,204	688,991	59,814	30,924	28,890	476
Bahraich	2,657	3	1,881	1,051,347	544,416	506,931	43,877	22,822	21,055	379
Sultānpur	1,701	1	2,458	1,083,904	534,932	548,972	9,550	5,216	4,334	632
Partābgarh	1,458	4	2,167	912,848	446,182	466,666	18,985	9,990	8,995	613
Bāra Bankī	1,703	10	2,052	1,179,323	603,967	575,356	67,436	34,265	33,171	653
Total, Fyzābād Division	12,045	35	13,979	6,855,991	3,463,104	3,392,887	324,762	168,599	156,163	542
Total, Oudh	23,966	79	24,129	12,833,077	6,568,157	6,264,920	939,124	488,538	450,586	496
Total, United Provinces	107,164	453	105,068	47,691,782	24,616,942	23,074,840	5,273,573	2,752,314	2,521,259	396
Rāmpur	899	6	1,120	533,212	280,987	252,225	103,880	53,039	50,841	477
Tehrī-Garhwāl	4,180	...	2,456	268,885	133,427	135,458	...	...	...	64
Total, Native States	5,079	6	3,576	802,097	414,414	387,683	103,880	53,039	50,841	137
GRAND TOTAL. British Districts and Native States	112,243	459	108,644	48,493,879	25,031,356	23,462,523	5,377,453	2,805,353	2,572,100	384

NOTE.—The areas shown in this table are those for the year 1901. Later changes are referred to in District articles which give figures for 1904.

TABLE IV

STATISTICS OF AGRICULTURE, UNITED PROVINCES
(in square miles)

	Average for 1886-90.	Average for 1891-1900.	1900-1.	1903-4.
Total area	90,268	101,419	103,757	104,075
Total uncultivated area	39,379	49,343	49,725	49,150
Cultivable, but not cultivated	25,621	35,443	35,978	35,602
Uncultivable	13,758	13,900	13,747	13,548
Total cultivated area	50,889	52,076	54,032	54,925
Irrigated from canals	2,138	2,545	2,710	3,354
" " wells and tanks	8,349	10,305	10,126	12,872
" " other sources	2,692	1,458	728	975
Total irrigated area	13,179	14,308	13,564	17,201
Unirrigated area	37,710	37,768	40,468	37,724
Total Cropped Area.				
Rice	8,806	11,598	11,208	9,402
Wheat	8,074	8,561	9,939	12,170
Other food-grains and pulses	34,073	35,119	35,622	37,565
Oilseeds	1,282	1,352	1,244	2,107
Sugar-cane	1,474	1,949	1,895	1,702
Cotton	2,274	1,792	1,635	1,306
Other fibres	136	127	159	174
Poppy	389	490	615	689
Indigo	606	501	410	220
Tea	13	13	13	13
Tobacco	100	88	85	81
Miscellaneous	2,661	2,278	2,076	2,825
Total area cropped	59,889	63,868	64,901	68,241
Area double cropped	10,766	12,189	11,649	13,316

NOTE.—The principal crops irrigated are wheat, sugar-cane, rice, and garden crops. The areas are taken from the village statistics.

TABLE V

Prices of Food-staples, United Provinces

(in seers per rupee)

Natural division.	Selected Food-staples.															Salt.		
	Wheat.			*Jowār.*			Gram.			Barley.			Rice.					
	Years.			Years.			Years.			Years.			Years.			Years.		
	1871–80.	1881–90.	1891–1900.	1871–80.	1881–90.	1891–1900.	1871–80	1881–90.	1891–1900.	1871–80.	1881–90.	1891–1900.	1871–80.	1881–90.	1891–1900.	1871–80.	1881–90.	1891–1900.
Eastern .	17·33	16·84	13·55	23·59	24·06	18·76	22·44	23·37	19·04	24·08	23·81	18.97	15·59	14·78	12·13	7·74	10·05	9·89
Central .	19·07	18·59	15·25	24·52	23·97	20·85	23·41	24·83	20·65	25·83	25·02	21·24	14·57	13·18	11·26	9·2	11·31	10·99
Western .	20·45	17·78	15·69	23·55	22·61	21·77	24·60	23·61	22·27	28·12	25·27	23·44	13·17	11·98	10·42	9·79	12·05	11·44
Submontane, East. .	18·09	17·65	14·19	18·61	26·90	13·52	22·32	23·75	18·19	26·58	26·40	19·83	16·78	16·87	15·68	7·27	9·95	10·02
Submontane, West. .	20·44	18·40	15·53	24·17	22·95	19·46	23·47	22·59	20·31	30·07	27·07	23·39	14·60	13·61	11·29	9·12	11·40	10·71
Oudh . .	20·54	19·00	15·40	28·75	27·35	21·78	25·21	24·61	21·25	29·96	27·69	22·56	16·73	15·68	13·56	8·76	10·48	10·54

Note.—The famine years of 1878, 1896, 1897, and 1899 are excluded.

TABLE VI

Trade of the United Provinces with other Provinces

(in thousands of rupees)

Articles.	Imports.						
	1890-1.	1900-1.			1903-4.		
	By Rail (only).	By Rail.	By River.	Total.	By Rail.	By River.	Total.
Coal and coke	28,88,	68,81,	18,	68,99,	1,03,83,	17,	1,04,00,
Cotton, raw	21,51,	19,29,	17,	19,46,	36,25,	16,	36,41,
" twist and yarn	44,21,	57,75,	30,	58,05,	84,62,	4,96,	89,58,
" piece-goods	4,43,69,	4,17,74,	2,55,	4,20,29,	4,75,49,	64,80,	5,40,29,
Dyes and tans	22,69,	20,38,	76,	21,14,	20,89,	84,	21,73,
Grain and pulse, wheat	24.95,	4,71,	4,53,	9,24,	2,44,	85,	3,29,
" " " others	1,39,85,	1,02,82,	50,39,	1,53,21,	66,62,	12,93,	79,55,
Hides and skins	9,90,	50,00,	7,	50,07,	18,98,	10,	19,08,
Gunny-bags and cloth	16,93,	68,34,	81,	69,15,	68,78,	1,16,	69,94,
Lac	19,97,	56,56,	12,	56,68,	67,31,	2,	67,33,
Metals, brass (unwrought)	10,56,	14,17,	3,	14,20,	15,94,	6,	16,00,
" others	81,71,	1,33,48,	6,80,	1,40,28,	1,38,16,	3,13,	1,41,29,
Oils, kerosene	13,46,	23,92,	1,34,	25,26,	25,23,	1,43,	26,66,
" others	2,61,	4,47,	58,	5,05,	3,38,	23,	3,61,
Oilseeds	1,94,	6,05,	70,	6,75,	5,42,	30,	5,72,
Opium	56,	4,84,	...	4,84,	95,	...	95,
Provisions	30,02,	32,00,	5,31,	37.31,	56,55,	1,61,	58,16,

TABLE VI (*continued*)

Trade of the United Provinces with other Provinces

(in thousands of rupees)

Articles.	Imports.						
	1890-1.	1900-1.			1903-4.		
	By Rail (only).	By Rail.	By River.	Total.	By Rail.	By River.	Total.
Railway plant and rolling-stock	54,42,	57,29,	9,	57,38,	88,70,	...	88,70,
Salt	1,27,51,	1,43,32,	1,47,	1,44,79,	1,37,73,	56,	1,38,29,
Spices	33,92,	37,15,	3,89,	41,04,	42,07,	2,41,	44,48,
Stone and lime	1,84,	5,51,	26,	5,77,	18,86,	16,	19,02,
Sugar, refined	14,52,	39,22,	34,	39,56,	65,28,	20,	65,48,
" unrefined	11,42,	41,33,	1,48,	42,81,	38,07,	3,52,	41,59,
Tea	75,	83,	...	83,	83,	...	83,
Tobacco, unmanufactured	11,32,	22,38,	1,01,	23,39,	22,41,	78,	23,19,
" manufactured	94,	1,83,	...	1,83,	2,24,	9,	2,33,
Wood	Not registered.	9,91,	4,65,	14,56,	13,64,	58,	14,22,
Wool, raw	2,53,	3,54,	1,	3,55,	1,68,	...	1,68,
" manufactured	38,35,	55,83,	3,16,	58,99,	41,53,	81,	42,34,
All other articles of merchandise	1,11,75,	1,45,40,	7,51,	1,52,91,	1,66,44,	5,66,	1,72,10,
Total	13,22,71,	16,48,87,	98,51,	17,47,38,	18,30,32,	1,07,52,	19,37,84,
Treasure:— Silver coin and bullion	Not registered.	3,04,08,	4,38,	3,08,46,	3,12,26,	33,	3,12,59,

TABLE VI (*continued*)

Trade of the United Provinces with other Provinces

(in thousands of rupees)

Articles.	Exports.						
	1890-1.	1900-1.			1903-4.		
	By Rail (only).	By Rail.	By River.	Total.	By Rail.	By River.	Total.
Coal and coke	19,70,	20,23,	2,	20,25,	40,27	...	40,27,
Cotton, raw	1,88,21,	1,57,70,	14,	1,57,84,	1,71,83,	8,	1,71,91,
" goods	35,42,	64,56,	1,14,	65,70,	60,64,	1,15,	61,79,
Grain and pulse	99,57,	7,94.51,	10,28,	8,04,79,	5,20,14,	22,52,	5,42,66,
Hides and skins	69,15,	95,90,	1,73,	97,63,	74,44,	95,	75,39,
Indigo	53,76,	46,00,	...	46,00,	13,32,	...	13,32,
Jute	16,47,	13,16,	66,	13,82,	13,45,	32,	13,77,
Metals	29,00,	30,22,	4,14,	34,36,	33,22,	1,05,	34,27,
Oils	4,10,	8,54,	61,	9,15,	9.30,	2,50,	11,80,
Oilseeds	1,32,50,	3,46,87,	21,14,	3,68,01,	4,16,88,	30,29,	4,47,17,
Opium	2,35,72,	3,14,71,	...	3,14,71,	3,41,47,	...	3,41,47,
Provisions	1,17.65,	1,29,77,	12,66,	1,42,43,	70,47,	2,74,	73,21,
Saltpetre, &c.	14,42,	17,66,	9,39,	27,05,	17,57,	2,87,	20 44,
Spices	15,42,	27,52,	2,86,	30,38,	52,74,	1,20,	53,94,
Sugar	2,45,69,	2,51,17,	46,87,	2,98,04,	2,44,32,	42,12,	2,86,44,
Tea	7,14,	4,91,	...	4,91,	6,73,	...	6,73,
Tobacco	3,64,	8,87,	73,	9,60,	5,63,	50,	6,13,
Wool	8,83,	97.64,	81,	98,45,	29,98,	25,	30,23,
All other articles of merchandise	2,02,71,	2,95,18,	23.70,	3,18,88,	2.75,43,	13,50,	2,88,93,
Total	14,99.10,	27,25,12,	1,36,88,	28.62,00,	23,97,83,	1,22,04,	25,19,87,
Treasure :— Silver coin and bullion	Not registered.	86,63,	23,	86,86	3,13,11,	56,	3,13,67,

TABLE VII

STATISTICS OF CIVIL JUSTICE, UNITED PROVINCES

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1903.
Suits for money and movable property	124,817	117,228	101,975	102,233
Title and other suits	23,339	31,289	36,387	35,156
Rent suits	217,436	265,411	404,462	280,158
Total	365,592	413,928	542,824	417,547

STATISTICS OF CRIMINAL JUSTICE, UNITED PROVINCES

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1903.	Percentage of convictions, 1903.
Number of persons tried—					
(*a*) For offences against person and property	142,603	133,747	111,067	106,158	31·4
(*b*) For other offences against the Indian Penal Code	26,845	23,377	21,542	21,338	53·4
(*c*) For offences against Criminal Procedure Code, Special and Local Laws	67,347	71,757	74,311	72,330	74·1
Total	236,795	228,881	206,920	199,826	49·2

TABLE VIII

Principal Sources of Revenue, United Provinces

(in thousands of rupees)

	Average for ten years ending March 31, 1890.		Average for ten years ending March 31, 1900.		Year ending March 31, 1901.		Year ending March 31, 1904.	
	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.
Land revenue	5,71,79,	1,06,95,	5,91,09,	1,39,54,	6,40,77,	1,72,06,	6,27,77,	2,27,17,
Stamps	61,79,	41,52,	71,85,	53,89,	82,77,	62,08,	80,47,	61,89,
Excise	51,00,	25,21,	53,87,	13,47,	69,00,	17,25,	83,24,	23,65,
Provincial rates	72,84,	13,96,	95,57,	15,87,	1,03,91,	13,11,	1,05,56,	13,08,
Assessed taxes	15,94,	7,24,	23,74,	11,77,	26,00,	12,67,	26,44,	10,06,
Forests	13,67,	5,83,	16,01,	8,00,	15,66,	7,83,	20,25,	11,40,
Registration	4,31,	2,75,	4,26,	2,13,	4·99,	2,49,	4,47,	2,28,
Irrigation	55,51,	48,17,	77,01,	60,66,	98,98,	59,15,	98,54,	56,64,
Other sources	60,01,	35,78,	1,82,40,	31,54,	2,64,26,	23,12,	2,91,68,	24,20,
Total	9,06,86,	2,87,41,	11,15,80,	3,36,87,	13,06,34,	3,69,76,	13,38,42,	4,30,37,
Contribution	21,71,		1,79,		5,80,		2,10,	

TABLE IX

Principal Heads of Expenditure, United Provinces

(in thousands of rupees)

	Average for ten years ending March 31, 1890.	Average for ten years ending March 31, 1900.	Year ending March 31, 1901.	Year ending March 31, 1904.
Opening balance . . .	60,84,	33,23,	40,39,	38,16,
(1) Charges in respect of collection (principally Land Revenue and Forests) . .	69,69,	50,61,	50,33,	54,99,
(2) Salaries and expenses of Civil Departments—				
(*a*) General Administration	12,71,	13,43,	13,90,	14,89,
(*b*) Law and Justice . .	52,65,	66,11,	70,33,	69,09,
(*c*) Police	37,47,	44,82,	51,67,	51,79,
(*d*) Education . . .	4,74,	5,98,	9,14,	10,23,
(*e*) Medical . . .	5,95,	7,80,	11,51,	9,70,
(*f*) Other heads . .	2,22,	2,00,	2,05,	2,88,
(3) Pensions and miscellaneous civil charges	17,49,	27,42,	30,88,	33,43,
(4) Famine relief . . .	1,	27,	40,	*Nil.*
(5) Irrigation . . .	32,98,	56,99,	64,81,	67,22,
(6) Civil Public Works. .	29,30,	33,19,	37,13,	50,17,
(7) Other charges and adjustments	44,47,	31,30,	25,36,	30,99,
Total expenditure	3,09,68,	3,39,92,	3,67,51,	3,95,38,
Closing balance .	65,92,	31,97,	48,44,	75,25,

TABLE X

Income and Expenditure of District Boards, United Provinces

	Average for three years ending 1900.	1900-1.	1903-4.
	Rs.	Rs.	Rs.
Income from—			
Land revenue	14,180	14,383	14,707
Provincial rates	32,42,587	33,07,267	32,41,544
Interest	18,268	17,203	18,756
Education	2,57,466	2,96,864	3,88,885
Medical	1,60,107	1,61,451	2,30,768
Scientific, &c.	6,151	9,350	24,283
Miscellaneous	11,66,816	7,82,793	12,49,711
Civil works	93,671	1,11,837	1,74,032
Pounds	3,21,484	3,45,018	4,03,772
Ferries	...	4,43,584	4,90,868
Total income	50,66,409	54,89,750	62,37,326
Expenditure on—			
General administration	74,882	90,755	1,02,356
Education	13,61,699	14,74,519	18,46,998
Medical	5,54,205	5,96,298	6,93,814
Scientific, &c.	25,462	36,543	63,985
Miscellaneous	6,27,262	6,77,198	3,75,591
Civil works	22,41,818	24,26,819	31,81,897
Total expenditure	48,85,328	53,02,132	62,64,641

NOTE.—Gross receipts and expenditure on account of pounds and ferries are shown from 1900 and 1901 respectively. The total income in the first column includes an average based upon net receipts.

TABLE XI

Income and Expenditure of Municipalities, United Provinces

	1889-90.	Average for ten years 1891-1900.	1900 1.	1903-4.
	Rs.	Rs.	Rs.	Rs.
Income from—				
Octroi	20,01,947	24,31,009	27,03,335	30,73,288
Tax on houses and lands	73,264	1,01,319	1,30,778	1,89,696
Other taxes . . .	2,68,910	5,92,331	10,08,010	9,79,145
Rents	...	2,18,146	2,76,504	3,67,388
Loans	11,43,705	9,13,544	1,90,000	12,41,000
Other sources . . .	7,19,603	8,22,539	8,41,633	13,34,042
Total income	42,07,429	50,78,888	51,50,260	71,84,559
Expenditure on—				
Administration and collection of taxes . .	3,93,630	4,76,512	6,42,343	7,12,035
Public safety . . .	5 36,797	5,98,054	6,66,661	7,25,396
Water-supply and drainage :—				
(*a*) Capital . . .	9,97,458	10,85,385	2,31,021	7,27,297
(*b*) Maintenance . .	68,658	3,06,235	4,55,408	4,89,811
Conservancy . . .	4,81,714	8,56,586	10,75,387	12,61,023
Hospitals and dispensaries	85,586	1,13,811	1,72,764	1,64,518
Public works . . .	5,23,143	5,14,257	5,07,621	7,09,365
Education . . .	1,18,573	1,37,387	2,05,364	2,43,077
Other heads . . .	8,38,431	9,33,326	9,07,679	7,82,[illegible]71
Total expenditure	40,43,990	50,21,553	48,64,248	58,14,793

TABLE XII

Strength and Cost of Police, United Provinces

	1881.		1891.		1901.		1903.	
	Number.	Total cost.	Number.	Total cost.	Number.	Total cost.	Number.	Total cost.
Supervising Staff.		Rs.		Rs.		Rs.		Rs.
District and Assistant District Superintendents	55	...	60	..	88	...	88	...
Inspectors	192	...	208	...	188	...	193	...
Subordinate Staff.								
Sub-inspectors	} 4,018	...	721	...	2,024	...	2,021	...
Head constables			3,644	...	2,785	...	2,798	...
Constables	17,935	...	19,114	...	19,988	...	20,033	...
Total Regular Police	22,200	35,43,311	23,747	38,71,951	25,073	53,97,449	25,133	53,95,743
Municipal Police	10,926	8,03,308	9,471	6,86,930	9,742	7,21,428	9,797	7,55,616
Rural Police	91,719	29,97,263	90,566	29,31,446	88,069	30,88,378	87,993	31,43,642

TABLE XIII

Statistics of Jails, United Provinces

	1881.	1891.	1901.	1903.
Number of Central jails	7	6	6	6
Number of District jails	45	44	44	44
Number of Subsidiary jails	29	20	*5	*6
Average daily jail population—				
Male prisoners: In Central jails	10,918	11,525	11,787	9,203
Male prisoners: In other jails	15,535	15,459	16,499	13,304
Female prisoners: In Central jails	624	431	428	200
Female prisoners: In other jails	992	820	600	440
Total prisoners	28,069	28,235	29,314	23,147
Rate of mortality per 1,000	24·1	27·6	24·2	15·5
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Expenditure on jail maintenance	9,77,146 0 0	11,56,654 0 0	14,42,837 0 0	11,89,130 0 0
Cost per prisoner	35 15 8	41 14 0	49 4 0	51 6 0
Profits on jail manufactures	1,88,743 0 0	1,70,211 0 0	1,94,957 0 0	2,03,443 0 0
Earnings per prisoner	5 15 8	6 8 0	7 1 0	9 8 0

* Fifth-class (subsidiary) jails only. The record of statistics relating to lock-ups and of under-trial prisoners confined therein was discontinued from 1896.

TABLE XIV

Educational Statistics, United Provinces

Institutions.	1890-1.			1900-1.			1903-4.		
	Number of institutions.	Scholars.		Number of institutions.	Scholars.		Number of institutions.	Scholars.	
		Males.	Females.		Males.	Females.		Males.	Females.
Public.									
Arts colleges	16	1,732	2	28	1,670	27	28	1,899	45
Professional colleges	7	723	...	10	728	...	10	875	...
Secondary schools { Upper (High)	87	15,945	885	120	17,575	1,686	125	18,854	1,916
Secondary schools { Lower (Middle)	421	35,554	870	426	49,228	1,781	423	53,034	1,374
Primary schools	4,758	149,262	9,646	6,982	262,659	13,737	8,601	328,828	18,350
Training schools	7	356	7	6	445	103	8	475	66
Other special schools	56	3,141	144	48	2,840	99	58	3,091	57
Private.									
Advanced	1,579	17,925	...	1,228	18,069	119	897	12,890	67
Elementary	4,786	51,013	2,316	5,072	58,971	3,762	4,559	56,888	4,173
Total	11,717	275,651	13,870	13,920	412,185	21,314	14,709	476,834	26,048

TABLE XV

STATISTICS OF HOSPITALS, LUNATIC ASYLUMS, AND VACCINATION, UNITED PROVINCES

	1881.	1891.	1901.	1903.
Hospitals.				
Number of civil hospitals and dispensaries	212	299	485	500
Average daily number of—				
(*a*) In-patients	1,689	2,253	2,416	2,353
(*b*) Out-patients	11,627	18,394	24,321	24,547
Income from—				
(*a*) Government payments	Rs. 1,97,447	Rs. 2,60,713	Rs. 3,28,673	Rs. 4,06,302
(*b*) Local and municipal payments	„ 78,534	„ 1,37,660	„ 1,96,956	„ 2,54,604
(*c*) Fees, endowments, and other sources	„ 1,11,755	„ 1,45,694	„ 2,20,292	„ 2,81,969
Expenditure on—				
(*a*) Establishment	„ 2,32,467	„ 3,01,306	„ 3,92,034	„ 4,17,175
(*b*) Medicine, diet, building, &c.	„ 1,28,052	„ 2,37,990	„ 3,15,195	„ 4,47,983
Lunatic Asylums.				
Number of asylums	4	4	4	4
Average daily number of lunatics—	853	1,107	1,091	1,148
(*a*) Criminal	147	152	262	281
(*b*) Non-criminal	706	855	729	867

NOTE.—For 1901 and 1903 the income and expenditure are for Government and aided hospitals only.

TABLE XV (*continued*)

Statistics of Hospitals, Lunatic Asylums, and Vaccination, United Provinces

	1881.	1891.	1901.	1903.
Lunatic Asylums (continued).				
Income from—				
(*a*) Government payments	Rs. 52,281	Rs. 65,271	Rs. 91,132	Rs. 96,228
(*b*) Fees and other sources	,, 3,508	,, 4,627	,, 2,817	,, 42,900
Expenditure on—				
(*a*) Establishment	,, 29,000	,, 28,692	,, 33,117	,, 39,974
(*b*) Diet, buildings, &c.	,, 28,827	,, 52,087	86,152	,, 85,796
Vaccination.				
Population among whom vaccination was carried on	44,330,343	47,146,033	47,960,667	47,960,667
Number of successful operations	644,952	859,358	1,466,776	1,591,053
Ratio per 1,000 of population	14·54	18·23	30·58	33·17
Total expenditure on vaccination	Rs. 1,29,319	Rs. 1,34,361	Rs. 1,37,471	Rs. 1,36,196
Cost per successful case	a. p. 3 3	a. p. 2 0	a. p. 1 6	a. p. 1 4

Uparghāt.—Table-land in the east of the Jashpur State, Central Provinces, lying between 22° 49′ and 23° 0′ N. and 84° 10′ and 84° 22′ E. On the Rānchī side it attains an average elevation of 2,200 feet above the sea, and is fringed by hills which in places rise a thousand feet higher. Approached from the east, the Uparghāt blends with, and forms an integral part of, the plateau of Chotā Nāgpur proper; while on the west it springs from the lowland region known as the Hetghāt in a scarped, fortress-like wall, buttressed here and there by projecting masses of rock. On this side the passes are extremely difficult, being unsafe for horsemen and utterly inaccessible by wheeled traffic. The Uparghāt again is divided by a slight depression from the still loftier plateau of Khuriā, which occupies the north-western corner of the State.

Uparwāra.—*Thakurāt* in the MĀLWĀ AGENCY, Central India.

Upleta.—Town in the State of Gondal, Kāthiāwār, Bombay, situated in 21° 44′ N. and 70° 20′ E., on the western bank of the river Moj, and 19 miles north-west of Junāgarh. Population (1901), 9,429. Upleta is a wealthy town, second only to Dhorājī and Gondal in the Gondal State, and has a darbār palace. The town is connected with Dhorājī by a good made road. It also has a railway station on the Bhavnagar-Gondal-Junāgarh-Porbandar Railway.

Upmāka.—Village in the Sarvasiddhi *tāluk* of Vizagapatam District, Madras, situated in 17° 24′ N. and 82° 43′ E. A very ancient temple stands here which contains no image, only the conch and discus of Vishnu being figured on the stone within the shrine. The yearly marriage of the god attracts great numbers of pilgrims in March. At the Census of 1901 there were 5,536 persons in the village, but more than 3,000 of them were pilgrims.

Upper Sind Frontier District.—District forming the northernmost portion of the province of Sind, Bombay, and lying between 27° 56′ and 28° 27′ N. and 68° and 69° 44′ E., with an area of 2,621 square miles. It is bounded on the north and west by the Dera Ghāzi Khān District of the Punjab and by Baluchistān; on the south by Sukkur District; and on the east by the river Indus.

Physical aspects.

The District consists of a narrow strip of level plain covered in parts with dense jungle, which, prior to the construction of the Kashmor embankment in 1879–80, was exposed to annual inundations. The embankment now keeps out the flood-water, and cultivation is general. The greatest length from east to west is 114 miles, and the maximum breadth from north to south 20 miles. The land itself lies from 170 to 273 feet above sea-level, being highest on its eastern side near the river Indus, whence it slopes downwards to the west. The south-east extremity of the District consists of high mountains, part of the Kīrthar range,

the highest peak being Miāngūn (5,100 feet). These hills and the adjacent flood-swept plain are sparsely inhabited. The northern border of the District is skirted by the Bugti hills, part of the Sulaimān mountains. Geologically, the District consists of alluvial deposits and desert.

The principal trees met with include the tamarisk or *lai*, *bahān* (*Populus euphratica*), *babūl*, wild caper-tree or *kirir*, *kandi*, *nīm*, *sirih* (*Acacia Lebbek*), black-wood or *tāli*, jujube or *ber*, and the *jāl*. The wild animals comprise hogs, which are very numerous, gazelles, hog-deer (*phārā*), hyenas, wolves, jackals, and foxes. Wild sheep (*gad*) and sometimes ibex are found in the mountains, and a leopard was recently shot on the plains near Kashmor. Tigers are now quite extinct. The imperial grouse (*chural*) and the raven, elsewhere rare in Sind, are found in this District.

The climate is remarkable for its intense heat, the greatest in India, its variations in temperature, and the smallness of the rainfall. The hot season extends from April to October. For the remainder of the year the weather is cold and agreeable. In November and March the temperature rises considerably in the daytime, but in the winter nights cold is severe and frost is frequent. Cool nights are experienced in April and May, after which the full force of the heat is felt, the nights being oppressive and the humidity generally over 70 per cent. During the five years 1900–4, the maximum temperature recorded was 126°, the minimum on the same day being 88°. Shade temperatures over 120° are frequently recorded, and sometimes the thermometer does not fall below 90° for several successive days. After August the nights become cooler, the north-west wind sets in, and by the middle of October the temperature falls considerably. The annual rainfall averages about 3 inches.

History.

The history of the Sind Frontier is bound up with that of the border tribes and the measures taken for converting them from their predatory habits to the peaceful pursuits of cultivators and traders. No better account has been given of this work than that from the pen of General Jacob, who, as Commandant and Political Superintendent of the Frontier, had so large a share in its successful completion, and whose name remains associated with Jacobābād, the capital of the District, as an enduring memorial. The border tribes are the Mazāris, Burdis or Buledhis, Khosas, Jamālis, Jatois, Dombkis, Jakrānis, and Bugtis. The Mazāris inhabit the country on the right bank of the Indus, partly within the limits of Sind and partly in the Punjab. They are the most expert cattle-stealers in the border country. The Burdis reside on the west bank of the Indus, between the Mazāris and the Begāri canal. They first came into contact with the British in 1838, in consequence of which

the latter in 1839 received the fortress of BUKKUR from Mīr Rustam of Khairpur, to whom the Burdis were subject. They then bore an evil reputation for robbery and murder. In 1843 they became subject to Mīr Alī Murād, on the deposition of Mīr Rustam, and assisted the former in his hill campaign with Sir Charles Napier in 1844. In 1847 the depredations of the Burdis, assisted by the Khosas, Dombkis, and Jakrānis, engaged the attention of the Sind Horse under Major Jacob, who broke up the confederacy, disarmed the tribes, cut roads through the jungles which had given cover to them, and reduced the country to order. The tract inhabited by the Burdis, known as Burdika, became British territory in 1852, when the lands of Mīr Rustam, as first conferred on Mīr Alī Murād, were resumed. The Khosas are found throughout Sind, and formerly extended their plundering raids into Gujarāt. Most formidable among the Baloch tribes, however, were the Dombkis and Jakrānis. Up to 1845 they resided in Eastern Kachhi, where they held a large tract of country. After the campaign of Sir Charles Napier in 1844-5, the defeated Dombkis and Jakrānis were settled at Jānidero and its vicinity, and a Commissioner was appointed to superintend them. Instead of settling down to cultivate the lands then allotted to them, these turbulent tribes, assisted by the Bugtis, made repeated plundering excursions from Sind into the neighbouring countries. The border country was left uncultivated, canals remained uncleared, and all peaceable people left the neighbourhood. In 1847 the Sind Horse were ordered up from Hyderābād to pacify the country, Major Jacob being placed in command of the Frontier. A persistent pursuit of the tribesmen followed, parties of plunderers being tracked and hunted down in all directions, until the main body of the marauders was surrounded and secured. Major Jacob then set the Jakrānis to clear out the Nūr Wah Canal, and settled the Baloch tribesmen on the adjacent territory. They rapidly reconciled themselves to peaceful pursuits, and have since continued contentedly to cultivate their holdings.

Population.

The District contains one town, JACOBĀBĀD, and 390 villages. According to the last four enumerations, the population has more than doubled in thirty years. In 1872 it was 115,050; in 1881, 145,810; in 1891, 174,548; and the Census of 1901 returned a total of 232,045, or 89 persons per square mile. The increase is due to immigration from Baluchistān and the Punjab, to fresh lands having been brought under cultivation, and to changes in the area of the District amounting to an addition of about 500 square miles. The population is distributed as in the table on the next page.

The chief language is Sindī, which is spoken by 165,110 persons, or 71 per cent. of the total. Baluchī and Siraikī are also spoken in

all parts of the District. Musalmāns form 90 per cent. of the total population and Hindus 9 per cent.

Tāluka.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Jacobābād . .	460	1	85	64,972	141	+ 34	1,841
Thul . . .	496	...	96	47,786	96	+ 49	1,098
Kandhkot . .	543	...	82	48,723	90	+ 60	640
Kashmor . .	500	...	65	38,179	77	+ 7	509
Shāhdādpur .	622	...	62	32,385	52	+ 18	737
District total	2,621	1	390	232,045	89	+ 33	4,825

The Baloch (72,500), who form the predominant class of the Muhammadan population, are divided into the following main tribes: the Burdis (22,000) living in the neighbourhood of Kashmor; the Khosas (9,000) distributed throughout the District; the Dombkis (7,000), near Jacobābād and Kumbri; the Chandias (6,000), the Lighāris (5,000), and the Rind (8,000) in the west. There are numerous Sindī tribes, chief of which are the Sammās (47,500) and Sūmras (9,000). Minor divisions are Chachars, Mahārs, Panhars, &c. Jats, including Lisharis, Sinjrānis, Waswāns, Bābars, &c., number 9,000; they live in encampments of mat tents and are engaged in tending and rearing camels. There are 9,000 Brāhuis. Among Hindus the only caste of importance is the Lohāna (14,000), which provides clerks, merchants, shopkeepers, and a few agriculturists. During the cold season there is a large temporary immigration of Afghāns, chiefly labourers, but including many merchants and horse-dealers. The District is mainly agricultural, 74 per cent. of the population being supported by this means. The industrial population forms 18 per cent.

Of 62 Christians in 1901 only 2 were natives, belonging to the Roman Catholic denomination. There is no mission at work in the District.

Agriculture.

The general nature of the soil is an alluvial deposit brought down by the Indus. There is a certain amount of sand, and a good deal of alkali land known as *kalar*. The latter has increased considerably since the Kashmor embankment shut off the river-floods. It can, however, be kept down by heavy watering, and is now frequently reclaimed in this way, good millet and rice being grown on it. In the high lands alkali is very common. The torrents from the northern and western hills bring down another kind of alluvial soil, hard, thirsty, and reddish clay, which is fertile if heavily watered.

The different modes of cultivation are known under the names of *mok*, where the land is lower than the surface of the water by which it is irrigated; *charkhi*, where the land is watered by a wheel from a canal or well; *bosi*, where land is flooded from canals during the annual inundation; and *sailābi*, or land overflowed by the river during the annual inundation. The chief *kharīf* crops are *jowār*, *bājra*, sesamum, and *mūng* or black gram. The *rabi* crops are wheat, gram, colza or *sarihu*, white mustard or *jāmbho*, barley, and vetches. Melons and gourds are planted before the *kharīf*. Cotton is sown in March and picked in the late autumn. It is cultivated in land which has been flooded, ploughed, and rolled in autumn, and derives its moisture from percolation or from canals.

Besides the ordinary alienations, large tracts of land in the District have been granted rent-free to Baloch chiefs and their tribesmen—some in perpetuity, others for life, but all conditional on good behaviour and loyalty, and subject to payment of *hakabo* (water-rate) or any other local cess legally imposed. The area thus granted amounts to 74 square miles.

The chief statistics of cultivation in 1903-4 are shown below, in square miles:—

Tāluka.	Total.	Cultivated.	Irrigated.	Waste.	Forests.
Jacobābād	460	318	192	53	8
Thul	497	372	187	62	...
Kandhkot	548	328	180	79	7
Kashmor	508	169	96	177	37
Shāhdādpur	622	198	107	184	...
Total	2,635*	1,385	762	555	52

* This figure differs from the area shown in the paragraph on population above, being based on more recent information.

The principal crops are rice (78 square miles), *jowār* (206), *bājra* (136), wheat (71), gram (82), *lang* (57), sesamum (94), and rape-seed (39 square miles). The sandy lands near Jacobābād produce melons of very fair quality. Apart from a considerable increase of cultivation due to extension of canals, no noteworthy agricultural improvement has taken place during the last twenty years. Large sums have been advanced to the cultivators under the Agriculturists' Loans Act for canal clearance and for the purchase of seed, amounting, during the decade ending 1903-4, to more than 2½ lakhs. Of this sum, Rs. 45,000 was advanced in 1898-9, Rs. 56,000 in 1901-2, and Rs. 58,000 in 1903-4.

The cattle used for draught are generally of fair quality; but the Kachhi breed, from the Nāri river, near Bhāg, is especially famous throughout both Sind and the Punjab. Much attention is bestowed

by the Baloch on the breeding of mares. The sheep are of the *dumba* or fat-tailed kind, yielding excellent mutton.

The total irrigated area in 1903–4 was 762 square miles, of which 705 square miles were irrigated from Government canals. The following are the principal canals maintained by Government, which form an important source of the District revenue. The Begāri Canal takes off from the Indus in the extreme south-eastern corner, and flows along the south of the District to Khaira Garhi in the extreme west; total length, including branches, 158 miles; width at mouth, 57 feet; navigable by boats for 58 miles. The cost of this canal during the four years ending 1903–4 averaged Rs. 49,455, while the average annual revenue during the same period amounted to nearly 4 lakhs; the revenue in 1903–4 was half of the District total. The area in the District irrigated by the canal was 287 square miles in 1903-4. The Begāri is continued by the Sir Canal, which brings in an annual revenue of Rs. 16,000, realized as a water rate from lands irrigated by it and lying in Kalāt territory. The Nūr Wah is a branch of the Begāri, taking off from that canal 40 miles from its head, and running northwards to Jacobābād, a distance of 19 miles, of which 10 miles are navigable. The Mirza Wah is another branch of the Begāri, 9½ miles in length, watering the *tappas* of Mīrpur, Balochābād, Mīral, and Mubārakpur. The Budhu Wah is a short branch of the Nūr Wah, 4 miles in length. The Desert Canal runs 75 miles west of Kashmor, irrigating about 207 square miles. The Unar Wah, which has its source in the Wadhu *dandh* (weir) of the Indus, runs for 36 miles through the District, irrigating 130 square miles. These canals have numerous smaller branches. The other important works supplying irrigation are the Kashmor embankment (6 square miles), the Sukkur Canal (61), and the Ghār Canal (33). The area irrigated from wells is only half a square mile, and from all other sources 61 square miles.

Forests in charge of the Forest department cover about 52 square miles. Some of them contain *bahān* and *kandi* of a fair size, but they are mostly tamarisk scrub. The canal banks are commonly lined with *babūls*, but trees are commonest on the roadside. In the last three years many thousands of trees have been planted by the local boards.

The manufacture of salt, which was formerly conducted on a large scale, is now prohibited, and local wants are supplied from the Moāch works near Karāchi. The lacquered woodwork of Kashmor is worthy of mention. Embroidered and plain shoes are made at Mīrpur, Ghauspur, and other places in the District to the number of from twenty to twenty-five thousand pairs a year. Woollen carpets, saddle-bags, nose-bags, ropes, grain-bags, &c., are woven by Baloch and Jat women. Mats, brooms, sieves, baskets, fans, and ropes are similarly made from the leaves of

Trade and communications.

the *pish* (dwarf-palm). Cotton cloth of an inferior description is also woven. Dyeing and calico printing are carried on to a small extent.

The internal trade and commerce of this District is principally in *jowār*, *bājra*, and *tīl*, the greater part of which is sent to the sea-board. The transit trade from Central Asia into Sind is also considerable. This trade is conducted by means of the railway and on camels, ponies, and asses, chiefly by the great road which runs through the entire breadth of the District from Jacobābād to Kashmor, and thence to Mithankot. The merchandise brought from these places consists of wool, woollen apparel, *manjīt* or madder, fruits, carpets, and horses; of the last some are purchased for the use of the cavalry at Jacobābād, and the others generally proceed to Karāchi by the Kalāt road. The District share of the trans-frontier trade has decreased since through transit was established by the construction of the Quetta railway. The chief articles of export to Baluchistān and Afghānistān are European and Indian piece-goods, leather, brass and copper, sugar, and tea.

The Quetta branch of the North-Western Railway runs through the centre of the District. There are upwards of 1,150 miles of roads of all descriptions, mostly inferior, owing to the nature of the soil and the difficulty of obtaining material for repairs. Of these, 32½ miles are maintained by the Public Works department and 1,121 miles by the local authorities. The only metalled roads are in Jacobābād town. Elsewhere, roads are strewn with straw or grass. The chief lines of road are those from Jacobābād to Shikārpur, to Dīl Murād, to Tower Begāri, to Nasīrābād, to Rojhan, to Mubārakpur, to Mīrpur, to Kandhkot, to Ghauspur, to Garhi Khairo, to Gora Nāri, to Sanri, and to Toj; from Dīl Murād to Garhi Hasan, to Tangwāni, to Kandhkot, to Kumbri, and to Kashmor; from Tower Begāri to Chausūl and Rato-Dero; from Nasīrābād to Shāhpur; from Rojhan to Muhammadābād and Khaira Garhi; and from Chausūl to Shikārpur. Avenues of trees are maintained on 72 miles of roads.

Administration.

The District is in charge of a Deputy-Commissioner, who is also District and Sessions Judge and is assisted by a Deputy-Collector. It is divided into 5 *tālukas*—Jacobābād, Thul, Kashmor, Shāhdādpur, and Kandhkot.

Civil justice is administered by a Subordinate Judge, sitting at Jacobābād, who is subordinate to the District Judge of Sukkur-Lārkāna. The chief criminal jurisdiction rests with the Deputy-Commissioner. The staff includes a Cantonment Magistrate and a resident magistrate at Jacobābād. The crimes most prevalent are cattle-lifting, murder, and grievous hurt. Dacoities are of rare occurrence.

The irrigation settlement is in force in the whole of the District. Almost all irrigable land that has been reclaimed from jungle after

the cessation of the floods is occupied and is cultivated in rotation. A considerable area of land, amounting to 555 square miles, is still unoccupied and available for cultivation. The revised settlement, completed in 1892–3, increased the demand of the previous assessments (5·4 lakhs) by 50 per cent., and there has been a further increase of 20 per cent. in the last decade. The last settlement was introduced throughout the District between 1894 and 1897, and the revision settlement in 1906–7. In the unsettled portion of the District the settlement has been introduced since 1905–6 and shows an increase of 10 per cent. over the previous assessment. The average rates per acre are: garden land, Rs. 2–14 (maximum Rs. 3–8, minimum Rs. 2–4); rice land, Rs. 3–11 (maximum Rs. 4–8, minimum Rs. 2–14); dry land, Rs. 2–6 (maximum Rs. 2–12, minimum Rs. 2).

Collections on account of land revenue and total revenue have been, in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	3,74	6,41	11,75	10,47
Total revenue . .	4,88	8,85	16,59	14,14

There is only one municipality, JACOBĀBĀD. Local affairs elsewhere are administered by a District board at Jacobābād and five *tāluka* boards, with a total income of Rs. 77,000 in 1903–4. Their principal source of income is the cess of one anna in the rupee of land revenue. More than Rs. 53,000 was spent in the same year upon buildings and communications.

The police force, formerly in charge of the Deputy-Commissioner, is now controlled by an Assistant Superintendent. There are 7 police stations in the District. The total number of police is 362, including one inspector, 6 sub-inspectors, 63 head constables, and 292 constables. There are 5 subsidiary jails and 7 lock-ups in the District, with accommodation for 132 prisoners. The daily average number of prisoners in 1904 was 31.

Among the Districts of the Presidency, this stands last but one in regard to education. In 1901, 4,825 persons (2·1 per cent. of the total) were able to read and write, including 4,796 (3·7 per cent.) males and 29 females. In 1881 there were 9 schools attended by 371 pupils. The number of pupils rose to 2,836 in 1901. In 1903–4 there were 138 schools with 3,933 pupils. Of these, 96 are public schools, attended by 3,243 boys and 287 girls. Of the institutions classed as public, 50 are maintained by the local boards, 4 by municipalities, 41 are aided, and one is unaided. The population consists largely of wild tribes recently reclaimed from marauding habits, who are naturally at present an unpromising field for education. The

expenditure upon education in 1903-4 amounted to Rs. 33,000, and was devoted entirely to primary instruction.

There are four dispensaries and one other medical institution in the District, with accommodation for 62 patients. In these institutions 17,678 cases were treated in 1904. The cases included 333 in-patients, and 1,163 operations were performed during the year. The expenditure was Rs. 10,241, of which nearly Rs. 4,700 was met from Local and municipal funds.

The number of persons successfully vaccinated in 1903-4 was 6,762, representing a proportion of 29 per 1,000, which exceeds the Presidency average.

[A. W. Hughes, *Gazetteer of the Province of Sind* (1876).]

Upper Sutlej Canals.—Irrigation work in the Punjab. *See* SUTLEJ CANALS, UPPER.

Upper Tirupati.—Village in North Arcot District, Madras. *See* TIRUMALA.

Upper Zhob.—Subdivision of Zhob District, Baluchistān, consisting of the HINDUBĀGH and KILA SAIFULLA *tahsīls*.

Uppinangadi.—The only inland *tāluk* in South Kanara District, Madras, lying between 12° 27′ and 13° 11′ N. and 75° 9′ and 75° 45′ E., with an area of 1,239 square miles. The population in 1901 was 181,842, compared with 165,427 in 1891, showing an increase of 9·9 per cent. PUTTŪR (population, 3,999), the head-quarters, is also the chief place in the subdivision of that name. The number of villages is 182. The demand for land revenue and cesses in 1903-4 amounted to Rs. 2,31,000. The *tāluk* is bounded on the Mysore and Coorg frontiers by the Western Ghāts, the spurs and parallel ranges of which occupy a large portion of it, and much is under forest. The population, which mainly speaks Tulu, is consequently much scantier than in the rest of the District, numbering only 147 persons per square mile, compared with the District average of 282. Good teak and other timber trees are found, but the want of communications has greatly interfered with the working of the forests. Cardamoms are grown to some extent, the largest private cardamom jungle being at Neriya. There is much fertile land round Puttūr and in the river valleys, but a considerable extent of land close under the Ghāts is uncultivated. Malarial fever, which is very rife in the interior at certain seasons of the year, deters settlers, and much labour is annually attracted by the coffee estates of Mysore and Coorg. The chief crop is rice, as in the rest of the District; and there are also some fine areca gardens, those in the neighbourhood of Vittal being exceptionally valuable. The coco-nut palm, however, does not thrive nearly so well as on the coast. The KŪDREMUKH and SUBRAHMANYA hills are the most prominent points of the Western Ghāts on the eastern boundary.

Urai.—*Tahsīl* and town in Jālaun District, United Provinces. *See* ORAI.

Uran.—Town in the Panvel *tāluka* of Kolāba District, Bombay, situated in 18° 52′ N. and 72° 56′ E., on the north of Karanja island, about 8 miles south-east of Bombay city. Population (1901), 12,237. The municipality, established in 1866, had an average income during the decade ending 1901 of Rs. 9,000. In 1903–4 the income was Rs. 10,000. Uran has a large customs-house and liquor shed at Mora, the port, 3 miles to the north; and nineteen distilleries supply Thāna and Kolāba Districts and Bombay city with liquor. In 1903–4 the exports were valued at 83·35 lakhs and the imports at 10·60 lakhs. The town contains a dispensary, a middle school, and three other schools.

Uravakonda.—Town in the Gooty *tāluk* of Anantapur District, Madras, situated in 14° 57′ N. and 77° 16′ E. Population (1901), 9,385. A deputy-*tahsīldār* is stationed here, and the town has been a good deal improved in recent years. The main street is wide and regular, and there is a fine grove just outside. The triangular hill round the base of which it is built can be seen from great distances over the level cotton-soil plains. Uravakonda is the commercial centre of this portion of the Gooty *tāluk*, and is also known for its weaving.

Urcha.—State in Central India. *See* ORCHHĀ.

Urigam (the Ooregum of the gold-mines).—Village in the Bowringpet *tāluk* of Kolār District, Mysore, situated in 12° 58′ N. and 78° 17′ E., 7 miles by rail east from Bowringpet. Population (1901), 6,387. The village contains Tamil inscriptions of the Hoysala king Rāmanātha, dating from the middle of the thirteenth century, in which the name appears as Urigaiyam. It was here, in 1875, that the first shaft was sunk for gold; and since 1885 the neighbourhood has been entirely transformed by the development of the gold-mines, and the foundation of a new town (now named Robertsonpet).

Urmar.—Town in the Dasūya *tahsīl* of Hoshiārpur District, Punjab. *See* TĀNDA URMAR.

Urun-Islāmpur.—Head-quarters of the Vālva *tāluka* of Sātāra District, Bombay, situated in 17° 3′ N. and 74° 16′ E., 48 miles south-south-east of Sātāra town, and 3 miles east of Peth. Population (1901), 11,553. The municipality, which was established in 1853, had an average income during the decade ending 1901 of Rs. 7,600. In 1903–4 the income was Rs. 6,300. The town consists of two distinct portions: Islāmpur, at one time a Musalmān colony; and Urun, the Hindu and older quarter. The latter contains the shrine of Shambhuappa Koshti, a Hindu devotee of the weaver caste, who performed many miracles and in whose honour a charity dinner is given in March to all comers. A fair is also held. Islāmpur has a dispensary.

Uskā.—Town in the Bānsī *tahsīl* of Bastī District, United Provinces, situated in 27° 12′ N. and 83° 8′ E. It is at present the terminus of a branch of the Bengal and North-Western Railway from Gorakhpur; but the line is being extended to Tulsīpur in Gondā. Population (1901), 6,718. A market was founded here by a European grantee, and it has now become the chief town in the north of the District. Rice and oilseeds, the product of Nepāl and of the country round, are largely exported. Town duties, raised under the United Provinces Revenue Act (III of 1901), yield about Rs. 2,000 annually for the improvement of the place. There is a school with 102 pupils.

Usmānābād.—District, *tāluk*, and town in Hyderābād State. *See* OSMĀNĀBĀD.

Usmānnagar.—Former *tāluk* of Nānder District, Hyderābād State. *See* OSMĀNNAGAR.

Utakamand.—Subdivision, *tāluk*, and town in Nīlgiri District, Madras. *See* OOTACAMUND.

Utangan.—River in Rājputāna and the United Provinces. *See* BĀNGANGĀ.

Utarpāra.—Town in Hooghly District, Bengal. *See* UTTARPĀRA.

Utmān Bulak.—Old name of the SWĀBI TAHSĪL, Peshāwar District, North-West Frontier Province.

Utmān Khel.—A mountainous tract of country between the Rūd and Amabhār rivers, and thence eastwards between the Swāt river and Peshāwar District, as far as the Rānizai border, in the Dīr, Swāt, and Chitrāl Agency, North-West Frontier Province, lying between 34° 15′ and 34° 50′ N. and 71° 1′ and 71° 50′ E. It is bounded on the east by Swāt; on the south by the Hashtnagar portion of Peshāwar District; on the west by the Mohmand country; and on the north by Dīr and Bājaur. The tract lies on both banks of the Swāt river, and derives its name from the Utmān Khel or tribe of Afghāns who occupied it in the sixteenth century, at the time of the Yūsufzai conquest of the Swāt. The tribe is estimated to number about 40,000, and is divided into many clans, constantly at feud among themselves. Their country, of which the area is about 3,000 square miles, is a network of bare hills and ravines, infertile except in some strips along the southern bank of the Rūd. Besides this tract, the Utmān Khel also own a few villages east of Landkhwar between Peshāwar District and Sam Rānizai. The Utmān Khel have frequently given trouble to the British Government, necessitating punitive expeditions in 1852, 1878, and 1898.

Utraulā Tahsīl.—Northern and eastern *tahsīl* of Gondā District, United Provinces, comprising the *parganas* of Utraulā, Sādullahnagar, Būrhāpārā, Babhnīpair, Mankāpur, Balrāmpur, and Tulsīpur, and lying between 26° 54′ and 27° 50′ N. and 82° 1′ and 82° 46′ E., with an area of 1,567 square miles. Population fell from 669,497 in 1891 to 654,181

in 1901. There are 1,430 villages and two towns: BALRĀMPUR (population, 16,723) and UTRAULĀ (6,756), the *tahsīl* head-quarters. The demand for land revenue in 1903-4 was Rs. 7,55,000, and for cesses Rs. 1,11,000. About 860 square miles are permanently settled with the Mahārājā of Balrāmpur. The density of population, 417 persons per square mile, is low for Oudh, and the *tahsīl* is not fully developed. Most of it lies north of the Rāptī, stretching up to the foot of the Himālayas on the Nepāl border; and this area is a moist tract, producing chiefly rice, and intersected by numerous torrents which fall into the Būrhī, or 'old,' Rāptī. A strip of forest, with an area of 142 square miles, lies along the northern border. South of the Rāptī the soil is drier and very fertile. The Suwāwan and Kuwānā are the chief rivers in this area. In 1903-4 the area under cultivation was 1,006 square miles, of which 221 were irrigated.

Utraulā Town.—Head-quarters of the Utraulā *tahsīl*, Gondā District, United Provinces, situated in 27° 19′ N. and 82° 25′ E. Population (1901), 6,756. Local tradition states that the town was seized by a Muhammadan freebooter, named Alī Khān, about 1552, who was killed by his own son. A fine tank built by Alī Khān is still in existence, and on its banks are his tomb and those of some of his descendants. The family residence is a large brick house on the site of the old fort, part of which is occupied by the *tahsīl* offices; and the town also contains a dispensary. Utraulā was administered as a municipality from 1893 to 1904, when it became a 'notified area.' During the ten years ending 1901 the income and expenditure averaged Rs. 3,500. In 1903-4 the income was Rs. 5,500, and the expenditure Rs. 4,000. There is a little local trade, and large quantities of rice pass through the town. Ornamental pottery is made on a small scale. There are three schools with 174 pupils.

Uttamapālaiyam.—Town in the Periyakulam *tāluk* of Madura District, Madras, situated in 9° 49′ N. and 77° 20′ E., on the Suruli river, about 24 miles south-west of Periyakulam. Population (1901), 10,009. It was formerly the head-quarters of one of the ancient *pālaiyams* or feudal estates of Madura. Since the advent of the water of the PERIYĀR PROJECT the place has risen in importance, being the first large town benefited thereby. It is the head-quarters of a deputy-*tahsīldār*.

Uttangarai.—Central *tāluk* of Salem District, Madras, lying between 11° 47′ and 12° 25′ N. and 78° 13′ and 78° 44′ E., with an area of 910 square miles. Next to Hosūr it is the most thinly peopled tract in the District, the population in 1901 being 159,419, compared with 138,113 in 1891. The *tāluk* generally has a bad name for malaria. There are 451 villages, including Uttangarai (population, 1,073), the head-quarters. The demand for land revenue and cesses in 1903-4 amounted to Rs. 2,07,000.

Uttaramerūr.—Town in the Madurāntakam *tāluk* of Chingleput District, Madras, situated in 12° 37′ N. and 79° 46′ E. Population (1901), 10,432. It is an agglomeration of several villages. Tradition says that there was formerly a very ancient town on this site, and remains of the foundations of buildings are occasionally exhumed at this day. It is the head-quarters of a deputy-*tahsīldār*, and contains a large tank fed from the Cheyyār. The weekly market, controlled by the local board, is an important affair.

Uttarpāra.—Town in the Serampore subdivision of Hooghly District, Bengal, situated in 22° 40′ N. and 88° 21′ E., on the right bank of the Hooghly river, immediately north of Bally in Howrah District. Population (1901), 7,036. Uttarpāra was the family residence of the enlightened *zamīndār*, Jay Krishna Mukharjī, and has a public library. This institution is especially rich in works on local topography and books published in India. It consists in part of the library slowly amassed by the *Hurkāru* newspaper in Calcutta during the first half of the nineteenth century. The building is in the pillared Italian style, and is one of the most imposing edifices on the Hooghly. The town also contains a college and a charitable association known as the Uttarpāra Hitakāri Sabhā, aided by Government. Uttarpāra was constituted a municipality in 1865. The income during the decade ending 1901–2 averaged Rs. 14,000, and the expenditure Rs. 13,000. In 1903–4 the income was Rs. 17,000, half of which was derived from a tax on houses and lands; and the expenditure was Rs. 17,500.

Uttiranmerūr. — Town in Chingleput District, Madras. *See* UTTARAMERŪR.

Uyyakondāntirumalai.—Village in the District and *tāluk* of Trichinopoly, Madras, situated in 10° 49′ N. and 78° 37′ E., about three miles west of Trichinopoly city. Population (1901), 1,550. It possesses an ancient temple, containing many old inscriptions, built on a small rock about 30 feet high which was once fortified. The peculiarity of the fortification is that the rock is surmounted by a circular bastion, the raised terrace of which supports the temple buildings. The rock is enclosed by a square stone wall carried up as high as the rock itself, and built thick enough to afford a rampart inside, about 5 feet in breadth, with a slender parapet with loopholes to fire through. An outer court is surrounded by walls nearly as high as those of the inner line, and the entire enclosure measures 200 yards by 100. The bastion is in good condition, but the wall is becoming dilapidated in parts. Marks of cannon balls are visible on the eastern face.

Being so close to Trichinopoly this fortified temple was a point of strategic importance in the military operations of 1753, being occupied in turn by each of the forces engaged. The historian Orme calls the place Weycondah. When the Mysore army, assisted by the

French, were blockading Trichinopoly on every side, Captain Dalton undermined the temple and fort one dark night, and tried to blow it up in order to deprive the enemy of the use of it while the English garrison was engaged in the fort. But the explosion was not successful, and the Mysore army, finding that the fortifications had been but little injured, took possession of them. Captain Dalton surprised the Mysore army by another night attack, marching close to their tents and making a general discharge among them before being challenged. The English sepoys seized some of the garrison's horses and arms, and the party effected a retreat before the enemy were sufficiently roused to do more than fire a few shots at random. On August 23, 1753, Major Lawrence attacked the enemy at Uyyakondāntirumalai, where they had entrenched themselves in a strong position, and compelled them to retreat in disorder. The English took possession of the place, but Major Lawrence had to abandon it almost immediately. It was then seized by the French. Immediately after the battle of the Sugar-loaf Rock (September 21) Major Lawrence marched against it and carried it by assault. In the course of this action a sergeant of a company of sepoys distinguished himself by clambering over the gate on the shoulders of one of his men.

Vāda.—Eastern *tāluka* of Thāna District, Bombay, lying between 19° 28′ and 20° 8′ N. and 72° 56′ and 73° 30′ E., with an area of 566 square miles. It contains 221 villages, Vāda being the head-quarters. The population in 1901 was 70,895, compared with 71,385 in 1891. The density, 125 persons per square mile, is much below the District average. Land revenue and cesses in 1903-4 amounted to nearly Rs. 93,000. Until 1866 Vāda was a petty subdivision (*petha*) of the old Kolvan, the present Shāhāpur *tāluka*. Along the valley of the Vaitarna river, which divides the *tāluka* from north to south, the land is well cultivated, and the villages are fairly numerous. The rest of the country, especially in the north-west and the east, is very hilly, and the population extremely scanty. There are three made roads: namely, the Vāda-Bhiwandi, the Vāda-Shirghat, and the Vāda-Māhim roads; but during the rains the country tracks are impassable. In the interior the supply of water from the Vaitarna, the Deherja, and the Pinjal is constant and fair. In other parts, where it is obtained from wells, the supply is doubtful and the quality bad. The whole *tāluka* is wooded, the forests in some parts stretching for miles. The chief trees are teak, *ain*, *mahuā*, and *khair*. Since 1901 Vāda has included the petty subdivision (*petha*) of Mokhāda, which formerly was a part of Shāhāpur. Mokhāda, which contains 69 villages and has an area of 259 square miles, consists of a thin strip of undulating plateau, lying for the most part between the Jawhār State on the west and the Western Ghāts in the north and east. The mountain of Utwad

(4,081 feet) is a conspicuous feature of the hilly portion, over the summit of which passes the boundary line between Nāsik and Thana Districts.

Vadakara.—Town in Malabar District, Madras. *See* BADAGARA.

Vadakku Valliyūr (*Vadakku* = 'northern').—Town in the Nānguneri *tāluk* of Tinnevelly District, Madras, situated in 8° 27′ N. and 77° 37′ E., on the trunk road from Tinnevelly town to Trivandrum, 28 miles from the former. Population (1901), 6,903. It has a large tank supplied by streams from the Western Ghāts. The temple dedicated to Subrahmanya is visited by numbers of people from all parts of the District.

Vadaku Vīravanallūr.—Town in Tinnevelly District, Madras. *See* VĪRAVANALLŪR.

Vadāl.—Petty State in KĀTHIĀWĀR, Bombay.

Vadāli State.—Petty State in KĀTHIĀWĀR, Bombay.

Vadāli Town.—Town in the State of Idar, Mahī Kāntha, Bombay, 12 miles north of Idar town. Population (1901), 4,611. It is a very ancient town, perhaps the O-cha-li which Hiuen Tsiang describes as between Mālwā and Vallabhi. In the eleventh century Vadāli was the centre of a large kingdom. The town is administered as a municipality, with an income (1903–4) of Rs. 407 and an expenditure of Rs. 80.

Vadāvli Tāluka.—Western *tāluka* of the Kadi *prānt*, Baroda State, with an area of 332 square miles. The population fell from 101,450 in 1891 to 67,302 in 1901. The *tāluka* contains two towns, CHĀNASMA (population, 8,183), the head-quarters, and DHINOJ (4,127); and 113 villages. Its aspect is uninviting, as it is a monotonous plain unrelieved by the presence of trees. The surface soil is mostly sandy, though in a few places black soil is found over a limited area. In 1904–5 the land revenue was Rs. 2,68,000.

Vādi (or Sāvantvādi).—Capital of the State of Sāvantvādi, Bombay, situated in 15° 54′ N. and 73° 52′ E., about 11 miles west of the foot of the Western Ghāts and 17 miles east of Vengurla. The town is also sometimes known by the name of Sundarvādi, that is, the 'beautiful garden.' Population (1901), 10,213. Founded by Phond Sāvant in 1670, the town, almost buried in palm groves, stretches round the border of a lake, over rocky uneven ground, seamed by ravines and watercourses. Well-wooded hills rise on all sides, the highest (Vādi peak on the west) being 1,200 feet above the sea. Except on Tuesday, the market day, when numbers come in from the neighbouring villages, Vādi is a place of little trade. The lake, a beautiful sheet of water hemmed in by well-wooded hills and girt with a belt of palm, jack, and mango trees, is known as the Moti Talao ('pearl lake'). Covering about 31 acres, with a mean depth of 6 feet,

it was improved in 1874, at a cost of about Rs. 20,000, by replacing the old retaining-dam by a cut-stone wall 204 yards long, secured by hydraulic cement, with iron gates at each end. On the east shore of the lake, separated from it by a roadway and sloping bank, stands a ruined fort, surrounded on the north-east and south by a ditch, which is dry in the fair season. The fort is irregular in shape, 350 yards by 150, and consists of roofed loopholed towers and bastioned curtains. The town contains a library and a clock-tower. It was administered as a municipality until 1904, when the funds and administration of the town were placed in charge of the Assistant Political Agent. The annual revenue is about Rs. 10,000. Water-works were constructed in 1895 at a cost of about $1\frac{1}{4}$ lakhs.

Vadia Virampur.—Petty State in REWĀ KĀNTHA, Bombay.

Vadigenhalli.—Town in the Devanhalli *tāluk* of Bangalore District, Mysore, situated in 13° 18′ N. and 77° 48′ E., 7 miles north-east of Devanhalli town. Population (1901), 4,008. The principal trade is in cotton, and is in the hands of Nagarta merchants. The two temples of Nagaresvara and Kesava were built about fifty years ago, said to be from designs of temples at Conjeeveram. The municipality dates from 1870. The receipts and expenditure during the ten years ending 1901 averaged Rs. 1,400 and Rs. 1,500. In 1903–4 they were Rs. 2,100 and Rs. 2,700.

Vadnagar.—Town in the Kherālu *tāluka* of the Kadi *prānt*, Baroda State, situated in 23° 48′ N. and 72° 40′ E., 8 miles north-east of Visnagar, on a branch of the Gaikwār's State Railway from Mehsāna. Population (1901), 13,716. According to legendary accounts, Vadnagar was founded by a prince of the Solar dynasty, who abandoned his native country, of which Ajodhyā was the capital, in A.D. 145, and wrested a dominion from a prince of the Paramāra clan. The town probably occupies the site of Anandapura, the original home of the Nāgar Brāhmans, though few reside here now. Hiuen Tsiang describes a place of this name as very populous in the seventh century, and Abul Fazl mentions Vadnagar as a place of great note with 3,000 idolatrous temples, attached to each of which was a tank. The walls of the town, according to an inscription, were built by Kumāra Pāla in 1152. Formerly the town had the unenviable reputation of being a chartered refuge for an infamous class of robbers, the Dhinoj Brāhmans. These paid a tax to the State; and their robberies and other misdeeds outside Baroda territory were winked at, until at the request of the Bombay Government the Dārbar withdrew its protection in the time of Sayājī Gaikwār II. There are still about 200 families of Dhinoj Brāhmans, but they lead a quiet life and generally resort to Bombay either for employment or as traders. The town now presents a poor appearance, though it is in some ways picturesque. The view from the

railway showing the lofty walls, with the houses perched above on rising ground, is especially fine. The temple of Hātkeshwar Mahādeo, held in great reverence by the Nāgar Brāhmans, lies to the west of the town. On the opposite side is the large Sarmishta tank, of a circular shape, with an island in the centre, and embanked with stone walls and steps. Close to the tank is a *chāvdi*, remarkable for its large and substantial stone pillars and arches ornamented with rich carving. The two *kirtti stambhas* or triumphal pillars closely resemble in design and workmanship those of the Rudra Māla at Sidhpur, but are in a better state of preservation. The town possesses the usual public offices, a dispensary, Anglo-vernacular and vernacular schools, together with numerous temples and *dharmsālas*. It is administered as a municipality, with an annual grant from the State of Rs. 2,800.

Vadod (1).—Petty State in the Gohelwār *prānt*, KĀTHIĀWĀR, Bombay.

Vadod (2).—Petty State in the Jhālāwār *prānt*, KĀTHIĀWĀR, Bombay.

Vāghvadi.—Petty State in the Sorath *prānt*, KĀTHIĀWĀR, Bombay.

Vāgra.—Central *tāluka* of Broach District, Bombay, lying between 21° 39′ and 21° 57′ N. and 72° 32′ and 72° 55′ E., with an area of 308 square miles. The population in 1901 was 26,686, compared with 36,939 in 1891. There are 69 villages but no town. The headquarters are at the village of Vāgra. It is the most thinly-populated *tāluka* in the District, and the density, 87 persons per square mile, is much below the average. The land revenue and cesses in 1903–4 exceeded 3 lakhs. The eastern part of the *tāluka* is a flat rich surface of black soil; but the west, with the exception of a small fertile tract of light soil, forms an unfruitful salt plain. The water-supply is deficient in quantity and of inferior quality, a large proportion of the wells being brackish.

Vaigai.—River in Madura District, Madras. It originates in two streams draining respectively the beautiful Kambam and Varushanād valleys, which are formed by outliers running down from the Western Ghāts at the point where they separate Madura from Travancore State. These unite in 10° N. and 77° 31′ E.; and thereafter the Vaigai runs east by north for 50 miles, receiving much of the drainage from the upper and lower ranges of the Palni Hills, and then turns and flows in an almost straight line south-east across the centre of the District, passing on the way through Madura city, until it reaches the sea in 9° 20′ N. and 79° 1′ E., 10 miles east of Rāmnād. Its supply is most uncertain and insignificant. Even at Madura, 100 miles from its mouth, its bed is all but dry during the greater portion of the year, and at Rāmnād it is often dry all the year round. On the other hand, it happens now and again that it is in full flood for a month together. It is dammed above Madura by the Peranai ('great dam') and the Chittanai ('little dam'), from which channels lead to land along its

left and right banks respectively, but otherwise it is of little value for irrigation. The PERIYĀR PROJECT, which utilizes its bed to bring the Periyār water to the irrigable portions of the District, has, however, of recent years greatly increased the supply in the river. It is crossed at Madura by the South Indian Railway, and also by a causeway and a fine masonry road bridge.

Vaijāpur Tāluk.—Westernmost *tāluk* of Aurangābād District, Hyderābād State, with an area of 558 square miles. The population in 1901, including *jāgīrs*, was 45,429, compared with 44,561 in 1891. The *tāluk* contains one town, VAIJĀPUR (population, 5,451), its head-quarters; and 120 villages, of which 7 are *jāgīr*. The land revenue in 1901 was 2·8 lakhs. The Godāvari river enters the District at the village of Phultāmba.

Vaijāpur Town.—Head-quarters of the *tāluk* of the same name in Aurangābād District, Hyderābād State, situated in 19° 56′ N. and 74° 43′ E. Population (1901), 5,451. It is said to have been named after its founder, Rānī Vaiju Bai. Vaijāpur contains the sepulchre of the Muhammadan saint, Saiyid Rukn-ud-dīn, and the grave of *nau-ghāzi* or the 'nine martyrs,' wrongly termed *nau-gazi* ('nine yards'). It contains a post office, a school, a dispensary, and the police inspector's office, and is a large grain mart.

Vaikam.—Head-quarters of the *tāluk* of the same name in Travancore State, Madras, situated in 9° 46′ N. and 76° 24′ E. Population (1901), 9,567. It has an ancient temple dedicated to Siva, which is visited by thousands of worshippers on the Ashtami days in February and November. It also contains a Munsif s court.

Vairāg.—Village in the Bārsi *tāluka* of Sholāpur District, Bombay, situated in 18° 4′ N. and 75° 49′ E., on the road connecting Sholāpur city and Bārsi, 16 miles south-east of the latter place. Population (1901), 5,163. Vairāg is an important trade centre with a weekly market on Wednesday, at which grain and other agricultural produce are purchased by Bombay merchants for export to foreign countries. The village contains four schools, including one for girls, attended respectively by 190 boys and 40 girls.

Vairowāl.—Town in the Tarn Tāran *tahsīl* of Amritsar District, Punjab, situated in 31° 25′ N. and 75° 10′ E., on the right bank of the Beās. Population (1901), 5,439. The place is of no commercial or historical importance. It contains a vernacular middle school.

Vaisālī.—Ancient kingdom of Bihār, in Bengal, corresponding with the south of the modern Muzaffarpur District. The capital was probably at Basārh, in the Lālganj *thāna*. Vaisālī was a great stronghold of Buddhism, and Gautama is said to have visited it three times. Patna was originally fortified to guard against the confederacy of the Lichchavis, who had their capital at Vaisālī. Here, too, the second

Buddhist council was held in A.D. 377, the result of which was to split up the Buddhists into the Northern and Southern sects.

Vajiria.—Petty State in REWĀ KĀNTHA, Bombay.

Vajrābai (or Vajreshvari, 'the lady of the thunderbolt').—Sacred spot in the Bhiwandi *tāluka* of Thāna District, Bombay, situated in 19° 29′ N. and 73° 5′ E., 12 miles north of Bhiwandi, near the bed of the Tānsa river, in the village of Vadavli. It is famous for its hot springs, which form one group in a line that appears here and there along 4 miles of the river's course. The rock is a common reddish trap, pierced by occasional dikes of hard black basalt. The water does not nearly approach the boiling point; it is tasteless, and the strong sulphurous smell, which pervades the neighbourhood of the spring, is due less to the water than to the bubbles of gas which rise through it. According to tradition the hot water is the blood of a demon, or *rākshas*, slain by the goddess Vajrābai, who became incarnate in this neighbourhood to clear it of demons and giants. The people of the place know little about Vajrābai, and her chronicle, or *mahātmya*, is kept at the village of Gunj, some 6 miles to the north. Her temple is a handsome building, well placed at the top of a flight of steps on a spur of the Gumtara range. A large fair, attended by about 5,000 persons of all castes, is held here in Chaitra (April), at which large quantities of sweetmeats, fruit, grain, cloth, fish, wood, cattle, and ornaments are sold. There are other hot springs in the neighbourhood, at Akloli and Ganeshpuri. The former are close to a temple of Rāmeshvar. In 1784 the springs were much used both by natives and by Europeans, and James Forbes described them as consisting of a small cistern with water at a temperature of 120°. Except that it wanted the small element of iron, the water tasted like that at Bath in England.

Vakhtāpur (1).—Petty State in MAHĪ KĀNTHA, Bombay.

Vakhtāpur (2).—Petty State in REWĀ KĀNTHA, Bombay.

Vala State.—State in the Kāthiāwār Political Agency, Bombay, lying between 21° 51′ and 22° 1′ N. and 71° 50′ and 72° 3′ E., with an area of 109 square miles. The population in 1901 was 13,285, residing in 40 villages. The revenue in 1903–4 amounted to 2·25 lakhs, and 54 square miles were cultivated. Vala ranks as a third-class State in Kāthiāwār. The ancient name was Vallabhipur. Subsequent to its overthrow, a portion of the ruling tribe returned hither from exile under the name of Vala, and ruled here till about the middle of the tenth century, when they were driven out by Mulrāj Solanki of Pātan, who established his authority as far as Gogha, the Vala *girāsiās* being left in undisturbed possession of the surrounding country. They established themselves in Talaja, expelling the Mehar rulers, and spread to Bhadrod. In 1260 the Gohels conquered Vala and compelled the Valas to quit their ancient seat, which passed to the Muham-

madans when they conquered Gujarāt. After the death of Aurangzeb, Vala and Loliana fell into the hands of Bhausinghjī, the founder of Bhaunagar, who bestowed Vala and two other villages on Visojī, the founder of the Vala house. Visojī is said by some to have been a twin-brother of Akherajjī, who succeeded his father Bhausinghjī. Visojī enlarged his patrimony by conquest from the Kāthīs and others, and died in 1774. In the time of his grandson Meghabhai (1798–1814) a settlement of tribute was concluded with the British Government. The chief bears the title of Thākur.

Vala Village.—Capital of the State of the same name in Kāthiāwār, Bombay, situated in 21° 52′ N. and 71° 57′ E., about 22 miles north-west of Bhaunagar, 16 miles north of Songarh civil station, and 12 miles from Dhola junction railway station. Population (1901), 4,712. The ancient name of Valla was Vallabhipur; and it was from this spot that the dynasty, founded by the Senāpati of the Guptas, swayed for a period of three hundred years the destinies of the Kāthiāwār peninsula. Previous to the foundation of Vallabhi, the official capital had always been Vāmansthali (Vanthli), as the religious capital had been Pātan Somnāth. Not much is known about the Vallabhi kings, save what can be gleaned from their copperplate grants; but these show them to have reigned, roughly speaking, from about A.D. 480 to 790, when their capital was sacked, and their dynasty overthrown by foreign invaders. There are but few architectural remains at Vala. The houses appear to have been built principally of mud, but some are of brick. Old foundations are constantly dug up even at the present day. Coins and copperplates are found, as well as clay seals, beads, and small household images. But there do not appear to have been any large or imposing buildings in stone; or if there were, all trace of them has disappeared. There is no great trade at Vala. The principal exports are wheat and cotton, while sugar, cloth, timber, and grain are the chief imports.

Vālam.—Town in the Visnagar *tāluka* of the Kadi *prānt*, Baroda State, situated in 23° 42′ N. and 72° 30′ E. Population (1901), 5,337. It possesses a vernacular school.

Valarpattanam (or Baliapatam).—Village and river in the Chirakkal *tāluk* of Malabar District, Madras. The river is formed by two affluents rising in Coorg: namely, the Barapole and the Kalluhole. It is about 74 miles long, and is the most important in North Malabar, being navigable for a considerable distance. At its mouth, 3 miles below the village of Valarpattanam, where the great body of water discharged into the sea maintains a fairly deep channel over the bar, it is joined by the Taliparamba river, which flows along the coast from the north, and is in its turn connected by the Sultān's Canal with the backwaters of South Kanara. The village of Valarpattanam is situated on the left bank of the river, in 11° 55′ N. and 75° 22′ E. Population

(1901), 3,429. It possesses a thriving trade, chiefly in timber, which is floated down from the Ghāts. The Madras Railway crosses the river at Azhikal, a little above the village.

Valāsna.—Petty State in MAHĪ KĀNTHA, Bombay.

Vālha.—Village in the Purandhar *tāluka* of Poona District, Bombay, situated in 18° 11′ N. and 74° 9′ E., about 15 miles south-east of Sāsvad. Population (1901), 4,929. Vālha has a weekly market held on Tuesday. According to a Marāthā legend Vālha was the residence of Vālmīki, the author of the Rāmāyana. Vālmīki is said to have been a Kolī and his popular designation in song and folklore is Vālhya Kolī. The town contains one school with 166 pupils.

Vallam.—Town in the District and *tāluk* of Tanjore, Madras, situated in 10° 43′ N. and 79° 5′ E., on a small plateau 7 miles south-west of Tanjore. Population (1901), 7,590. Vallam is one of the pleasantest and healthiest places in the District, and the usual residence of the Collector. It had formerly a strong fort, built presumably by the Naik Rājās in the sixteenth or seventeenth century, which was taken by the British under Colonel Joseph Smith on behalf of the Nawāb of Arcot in 1771, and remained in their occupation until its restoration to the Rājā of Tanjore in 1776. Few traces of the defences now survive, except the moat. A sacred tank within the fort is hewn in the solid rock and unusually deep. It is called Vajratirtham ('the diamond pool'), and the popular tradition is that it was dug by Indra. An old Siva temple by its side contains many inscriptions. The quartz crystals found in the neighbourhood, known as Vallam stones, are made into spectacles and ornaments. There are also extensive gravel quarries.

Valliyūr.—Town in Tinnevelly District, Madras. *See* VADAKKU VALLIYŪR.

Valuvanād.—*Tāluk* of Malabar District, Madras. *See* WALAVANĀD.

Vālva Tāluka.—South-western *tāluka* of Sātāra District, Bombay, lying between 16° 51′ and 17° 16′ N. and 73° 42′ and 74° 29′ E., with an area, including the petty subdivision or *petha* of Shirāla, of 545 square miles. It contains two towns, URUN-ISLĀMPUR (population, 11,553), the head-quarters, and ASHTA (12,409); and 134 villages, including NERLA (7,524), PETH (6,820), BORGAON (5,498), BĀGNI (5,641), VĀLVA (5,525), KĀSEGAON (5,482), and KAMERI (5,052). The population in 1901 was 195,949, compared with 192,255 in 1891. The density, 359 persons per square mile, is above the District average. The demand for land revenue in 1903-4 was 4·1 lakhs, and for cesses Rs. 33,000. The *tāluka* consists of two parts, the Kistna and lower Vārna valley in the east, and the upper Vārna valley in the west. The lower valley is a black-soil plain, the upper valley is hilly, and in the extreme west has some of the densest forests in the District. Much of the east is one great garden, adorned by mango groves.

Vālva Village.—Former head-quarters of the *tāluka* of the same name in Sātāra District, Bombay, situated in 17° 2′ N. and 74° 22′ E., on the right bank of the Kistna, 11 miles east of Peth and 7 miles east of Islāmpur. Population (1901), 5,525. A municipality was established at Vālva, but abolished in 1873 owing to the smallness of its income. Except the mansion of the Thorāt family of *deshmukhs*, the place has no remarkable buildings. The family first came into notice under Rājā Sāhu (1708–49) and was confirmed in the *deshmukhi* of villages extending up to Shirāla, besides receiving military grants of several large and productive tracts. The *deshmukhi* dates from the Musalmāns. This family must not be confounded with that of the great Dhanājī Rao, with which it is but distantly connected. In October, 1659, Sivajī took Vālva after capturing Shirāla. The first Pratinidhi, Rāmchandra Pant Amātya, repopulated it about 1690. In 1684 the District was occupied during the monsoon by a Mughal army under Sultān Muazzam, who cantoned on the banks of the Kistna. It was then annexed by Sambhājī to Kolhāpur, and suffered greatly from the ravages of Udājī Chauhān. The Pant Pratinidhi surprised the camp of Sambhājī and Udājī. Jaswant Rao Thorāt was killed in the engagement, and they were driven to Panhāla with the loss of all their baggage. This occasioned the cession to the Sātāra Rājā of the Vālva district north of the Vārna. The charge of the district continued in the Thorāt family till the British annexation in 1818.

Vāmbori.—Town in the Rāhuri *tāluka* of Ahmadnagar District, Bombay, situated in 19° 17′ N. and 74° 44′ E., 3 miles east of Khadamba on the railway, and 9 miles south-west of Rāhuri. Population (1901), 6,191. Vāmbori is the head-quarters of the Mārwār Vānīs, and the centre of their exchange and banking business. Some of the houses are large and well-built, but the streets are narrow, crooked, and ill aired. The town has a brisk trade in grain and salt, and a large cart-making industry. The Mārwāris have built a handsomely furnished temple of Bālājī. The municipality, constituted in 1885, had an income during the decade ending 1901 of Rs. 4,600. In 1903–4 the income was Rs. 3,800.

Vana.—Petty State in Kāthiāwār, Bombay.

Vanāla.—Petty State in Kāthiāwār, Bombay.

Vanavāsi.—Village in the Sirsi *tāluka* of North Kanara District, Bombay. *See* Banavāsi.

Vāndra.—Town in Thāna District, Bombay. *See* Bāndra.

Vanga.—Ancient name for the deltaic tract of Bengal and Eastern Bengal. *See* Banga.

Vāngadhra.—Petty State in Kāthiāwār, Bombay.

Vāniyambādi.—Town in the Tiruppattūr *tāluk* of Salem District, Madras, situated in 12° 41′ N. and 78° 37′ E., 115 miles from Madras

by rail. Population (1901), 12,005, of whom no less than 7,594 were Labbais, a mixed race consisting partly of the offspring of Musalmāns and the women of the country and partly of converts from Hinduism. Many of these are very wealthy and engage in trade with all parts of India, especially, as at Vāniyambādi, in skins and hides. Other articles of commerce are grain, cloths, and oil. The town is situated mainly on two islands enclosed by the branches of the Pālār river, and is liable to inundation in the rainy season. In 1874 the Pālār rose and washed away portions of the town. The floods of 1903 did even greater damage. On the night of November 17 the river rose suddenly and flooded the low-lying portions of the place, the water rushing through some of the streets as much as 10 feet deep. It washed away many houses, and, though the majority of the people saved themselves by taking refuge on the roofs, 150 to 200 lives were lost. Fresh sites have been acquired to the east of the railway, and the nucleus of a new town is rising. Vāniyambādi was created a municipality in 1886. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 23,200 and Rs. 23,100 respectively. The income in 1903–4 was Rs. 65,700 and the expenditure Rs. 39,600; of the former, Rs. 43,800 was contributed by Government, and the rest was principally derived from the house and land taxes.

Vānkāner.—Petty State and town in Kāthiāwār, Bombay. *See* WĀNKĀNER.

Vānkia.—Petty State in KĀTHIĀWĀR, Bombay.

Vanmāla.—Petty State in REWĀ KĀNTHA, Bombay.

Vanod.—Petty State in KĀTHIĀWĀR, Bombay.

Vanthli.—Town in the Sorath Prānt of Kāthiāwār, Bombay, situated in 21° 28′ N. and 70° 22′ E., about 9 miles west-south-west of Junāgarh. Population (1901), 7,726. Vanthli is famous for its copper- and ironwork. The modern name is said to have been corrupted from the ancient name Wāmansthali, or the 'abode of Waman.' The town was also known as Wāmanpur and Wāmandhām, and was sometimes called Deosthali, which is corrupted into Dethali.

Varāgām (*Vadāgām*).—Petty State in MAHĪ KĀNTHA, Bombay.

Vārāhi.—Petty State in the Political Agency of Pālanpur, Bombay. *See* PĀLANPUR AGENCY.

Varangaon.—Town in the Bhusāwal *tāluka* of East Khāndesh District, Bombay, situated in 21° 1′ N. and 76° E., 8 miles east of Bhusāwal town. Population (1901), 5,822. Formerly a town of considerable importance, it has declined since the establishment of Bhusāwal. Varangaon was handed over to the British Government by Sindhia in 1861. It had previously passed through the hands of the Mughals, the Nizām, and the Peshwā. The town contains a boys' school with 260 pupils.

Varkkallai.—Village and shrine in the Chirayinkīl *tāluk* of Travancore State, Madras, situated in 8° 42′ N. and 76° 53′ E., on the coast almost midway between Quilon and Trivandrum. Population (1901), 3,160. The high sandstone and laterite headlands (the Warkalli beds of the geologists) that here abut on the sea have been pierced by two tunnels at a cost of about 18 lakhs, and a canal has been led through them which completes the backwater communication from Trivandrum up to Tirūr in Malabar. The village contains the celebrated temple of Janārdan, an *avatār* of Vishnu, which is visited by pilgrims from all parts of India. The numerous mineral springs hereabouts and the close proximity to the sea have made Varkkallai a favourite Hindu sanitarium. At Edavai, 3 miles to the north, the Danes had a factory in the seventeenth century.

Varnol Māl.—Petty State in Rewā Kāntha, Bombay.

Varnoli Moti.—Petty State in Rewā Kāntha, Bombay.

Varnoli Nāni.—Petty State in Rewā Kāntha, Bombay.

Varsora (*Varsoda*).—Petty State in Mahī Kāntha, Bombay.

Varttirāyiruppu.—Town in the north-west corner of the Srīvilliputtūr *tāluk* of Tinnevelly District, Madras, situated in 9° 38′ N. and 77° 39′ E., in a deep bay in the Western Ghāts. From it a mountain path leads over into the Kambam valley of Madura District, and another path to the dam of the Periyār Project on the Travancore Hills. It is a Union, with a population (1901) of 13,131 persons, mainly agricultural, and is the head-quarters of a deputy-*tahsīldār* and sub-magistrate.

Varvāl-Rājura.—*Tāluk* in Bīdar District, Hyderābād State. The population in 1901, including *jāgīrs*, was 87,503, and the area was 772 square miles. In 1891 the population had been 148,805, the decrease being due to the famine of 1899–1900. The *tāluk* contains 244 villages, of which 33 are *jāgīr*, and Varvāl-Rājūra (population, 3,998) is the head-quarters. The land revenue in 1901 was 3 lakhs. The Mānjra river flows through the southern portion of the *tāluk*, which is composed of black cotton soil. In 1905 the *tāluk* was reduced by the transfer of some villages to Udgīr and Nilanga.

Vasai.—Town in Thāna District, Bombay. *See* Bassein.

Vāsan Sewada.—Petty State in Rewā Kāntha, Bombay.

Vāsan Virpur.—Petty State in Rewā Kāntha, Bombay.

Vasāvad.—Petty State in Kāthiāwār, Bombay.

Vāsna.—Petty State in Mahī Kāntha, Bombay.

Vāso.—Town in the Petlād *tāluka* of the Baroda *prānt*, Baroda State, situated in 22° 40′ N. and 72° 46′ E. Population (1901), 8,765. Weaving and the manufacture of locks and brass and copper pots are the chief industries. The town contains Anglo-vernacular and vernacular schools, an industrial school, and a second-class magistrate's

court. It is administered as a municipality, with an annual grant from the State of Rs. 1,800.

Vāsota.—Hill fort in the Jāvli *tāluka* of Sātāra District, Bombay, situated in 17° 40′ N. and 73° 42′ E., 5 miles west-north-west of Tāmbi, at the head of a small valley which branches west from the Koyna river. At the mouth of the valley is a village named Vāsota. Population (1901), 121. The fort itself is within the limits of Met Indoli village, and on the very edge of the Western Ghāts. The defences consist of a vertical scarp varying in height from 30 to 60 feet, crowned by a wall and parapet from 6 to 8 feet high and loopholed at intervals. The cliff to the south of the fort has a sheer drop of 1,500 feet, if not more. It is known as the Babukhada, and was used as a place of execution for criminals, who were hurled down the cliff. The fort of Vāsota is the most ancient in the hill districts. It is attributed to the Kolhāpur Silāhāra chief, Bhoj II (1178–93) of Panhāla; and, from the cyclopean blocks of unmortared trap which form the pond and older portions of the wall, it appears undoubtedly to be of great antiquity. The gateway looks Muhammadan, but it is doubtful whether any Musalmān ever came so far. The Shirkes and Mores possessed the fort, till it was taken by Sivajī in 1655 after the murder and conquest of the Jāvli chief. Sivajī named the fort Vajragarh, which name it has not retained. Subsequently it was chiefly used as a state prison. Soon after the battle of Kirkee (November 5, 1817) two British officers who had been captured at Uruli about 15 miles east of Poona after a manful resistance were sent first to Kāngori fort in Kolāba, where they were harshly treated, and thence to Vāsota. The British force, advancing from Medha by Bāmnoli and Tāmbi, drove in outposts at Vāsota, and met the Peshwā's forces at Indoli. Negotiations were opened with the commandant, one Bhāskar Pant, but he obstinately refused to surrender. The British forces then advanced a detachment and dug shelters for themselves in the hill-side. A battery was set up on the old fort, and the bombardment lasted for twenty hours. The commandant finally surrendered on April 6, 1818; and the two British officers were recovered uninjured. Mountstuart Elphinstone was present at the siege, which he has described. The prize property amounted to about 2 lakhs, in addition to family jewels of the Sātāra Rājā worth 3 lakhs.

Vastāra.—Village in the Chikmugalūr *tāluk* of Kadūr District, Mysore, situated in 13° 16′ N. and 75° 43′ E., 6 miles from Chikmugalūr town. Population (1901), 898. It stands at the entrance to the Malnād. The name is said to be derived from *vasu-dara*, 'land bestowed as an endowment.' The village was founded by Sāntarasa, one of the kings of Humcha. The Pāndya kings of Sisugali and the Bhairarasa Wodeyars of Kārkala subsequently held it, and then

the chiefs of Belūr and Bednūr. It was taken by the Mysore forces in 1690, but restored to Bednūr by the treaty of 1694. The conquest of Bednūr by Haidar Alī in 1763 resulted in its final annexation to Mysore.

Vāsurna.—Petty State in the DĀNGS, Bombay.

Vāv (with Suigām).—Petty State in the Political Agency of Pālanpur, Bombay. *See* PĀLANPUR AGENCY.

Vāvdi Dharvāla.—Petty State in KĀTHIĀWĀR, Bombay.

Vāvdi Vachhāni.—Petty State in KĀTHIĀWĀR, Bombay.

Vāyalpād.—South-eastern *tāluk* of Cuddapah District, Madras, lying between 13° 35′ and 13° 55′ N. and 78° 34′ and 79° 18′ E., with an area of 831 square miles. It is shut in on the east by the Pālkonda Hills, which divide it from the lower part of the District, and along the top of which runs a striking scarp of deep-red rock, visible for miles from the west. The population in 1901 was 128,692, compared with 127,043 in 1891. The *tāluk* contains 125 villages, of which Vāyalpād (population, 4,442) is the head-quarters. The demand for land revenue and cesses in 1903–4 amounted to Rs. 2,14,000. About one-fourth of the *tāluk* consists of 'reserved' forests, most of which lie on the Pālkonda Hills. There are a large number of tanks. The sugar-cane grown here is famed throughout all Southern India.

Vayittiri.—Village in the Wynaad *tāluk* of Malabar District, Madras, situated in 11° 33′ N. and 76° 2′ E. Population (1901), 2,658. Since the decline of planting in the north of the *tāluk*, it has become a centre of the coffee and tea-growing industry, and possesses a considerable European community. It contains a District Munsif's court and a sub-magistrate's court, a Roman Catholic chapel, and a Church of England place of worship. About a mile to the south-west lies the Pukkote lake, a natural sheet of water in a valley among low hills.

Vedāranniyam Canal.—Canal in Tanjore District, Madras, which was constructed in 1869. Inclusive of its subsequent extension to the salt swamp south of Vedāranniyam, its total length from Negapatam to its southern end is 35½ miles, made up of 13¾ miles of the already existing channels of the Adappār, Vellār, and Kaduvaiyār rivers, 10¼ miles of drainage streams intercepted in their passage down to the sea, and 12 miles of new cuts connecting these together. It was designed, and is chiefly used, for the transport of salt from the Vedāranniyam factory to the dépôt at Negapatam; but, owing to the absence of a good road between these two places, it is also resorted to for general traffic. The cost of the canal amounted to Rs. 1,34,000. It is maintained jointly by the Public Works department and the District board.

Vedāranniyam Town (Tamil, *Tirumaraikkādu*).—Town in the Tirutturaippūndi *tāluk* of Tanjore District, Madras, situated in 10° 22′ N. and 79° 50′ E. Population (1901), 14,138. It is the head-

quarters of a deputy-*tahsīldār*. The great Vedāranniyam salt swamp, which covers a tract about 30 miles long by 4 or 5 miles wide, lies to the west of the town. It is filled by two periodical high tides which occur about full moon in May and June respectively. About 2 feet of water is retained by means of an earthen bank with sluices; as it evaporates, salt is formed in large translucent blocks. This is stored in the Government factory at Vedāranniyam, and conveyed thence to the dépôt at Negapatam by the VEDĀRANNIYAM CANAL.

Vedāvati.—River in Southern India. *See* HAGARI.

Vekaria.—Petty State in KĀTHIĀWĀR, Bombay.

Vellanād.—Village in the Nedumangād *tāluk* of Travancore State, Madras, situated in 8° 34′ N. and 77° 3′ E. Population (1901), 1,326. Plumbago mining is carried on here by a European company.

Vellār ('White river').—River in Madras, formed by the junction of two streams called the Vasishtanadī and the Swetanadī, which rise in Salem District and receive the drainage of the Pachaimalai, Kollaimalai, and Kalrāyan Hills. They unite on the southern border of South Arcot District; and the Vellār constitutes for some distance the boundary between Trichinopoly and South Arcot, and then flows due eastwards across the latter into the Bay of Bengal at Porto Novo in 11° 32′ N. and 79° 46′ E. Its total length is about 135 miles and its catchment area 2,660 square miles. Much of its course is very tortuous, and it is continually eating away its steep banks on one side or other. Near Porto Novo its channel was straightened by the department of Public Works in 1848. Its chief tributary is the Manimuktānadī, which rises on the eastern slope of the Kalrāyan Hills. There are several dams across this, and two others have rendered the water of the main river available for irrigation in South Arcot. The upper of these is at Pelāndorai and the lower at Settiyātoppu (Shatiatope). Upon the latter is built the bridge which carries the road from Madras to the south. These dams irrigate 10,000 and 31,000 acres, and the net revenue due to improvements is Rs. 19,000 and Rs. 80,000. This represents a return on the capital outlay of 3 per cent. and nearly 37 per cent. respectively. Two more dams across the river have been proposed.

The Vellār is affected by the tide for 7 or 8 miles from its mouth, and for part of this distance it is navigable by small boats of 4 tons burden at all seasons of the year. Two miles south of its mouth it is supposed to meet, out at sea, the waters of the Coleroon; and once a year in the Tamil month Māsi (February–March) the idol from Srīmushnam is taken in procession to the shore opposite this propitious spot, and the people bathe in the sea there.

Vellore Subdivision.—Subdivision of North Arcot District, Madras, consisting of the *tāluks* of VELLORE, GUDIYĀTTAM, and ARCOT, and the KANGUNDI *zamīndāri tahsīl*.

Vellore Tāluk.—*Tāluk* in the south of North Arcot District, Madras, lying between 12° 39′ and 12° 57′ N. and 78° 39′ and 79° 13′ E. The northern portion runs along the right bank of the Pālār and is flat and open, but most of the rest is covered with numerous hill ranges. Of the total area (421 square miles), nearly half is under forest. The population in 1901 was 200,541, compared with 192,937 in 1891. It contains 149 villages and two towns: namely, AMBŪR (population, 15,903) and VELLORE municipality (43,537), the head-quarters of the *tāluk*. The demand for land revenue and cesses in 1903–4 amounted to Rs. 2,53,000.

Vellore Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 12° 55′ N. and 79° 9′ E., on the right bank of the Pālār, with a station on the Villupuram branch of the South Indian Railway, 4 miles from the Kātpādi junction on the south-west line of the Madras Railway, and 87 miles from Madras. Population (1901), 43,537, having decreased somewhat in recent years. Vellore is the largest town in the District, and was constituted a municipality in 1866. The municipal receipts and expenditure during the ten years ending 1902–3 averaged Rs. 55,100 and Rs. 59,200 respectively. The deficit was met by a loan from Government. In 1903–4 the income was Rs. 72,500, and the expenditure Rs. 65,600. Of the former, Rs. 17,500 was contributed by Government, and an almost equal amount was derived from house and land taxes, and from market fees and tolls. Plans and estimates for a water-supply to cost $3\frac{1}{2}$ lakhs are now under scrutiny.

The town is the head-quarters of the divisional officer, District Medical and Sanitary officer, Executive and District Board Engineers, Assistant Commissioner of Salt, Abkāri, and Customs, Deputy-Inspector-General of police, Assistant Superintendent of police, and Government Chaplain. It also contains the police training-school, the Arcot Mission College, and a high school. There is a large trade in grain, and the cultivation of sweet-scented flowers is one of the industries of the place, many bales of these being daily sent by rail to Madras.

The chief object of interest in Vellore is the fort and the temple therein. The former is one of the most perfect specimens of military architecture in Southern India, and the latter contains sculptures which by some are thought to rival those of Madura. The fort is declared by local tradition to have been built about 1274 by Bommī Reddi, a refugee chief from Bhadrāchalam on the banks of the Godāvari, and handed over to the Rājās of Vijayanagar. In reality, however, it appears to have been constructed not earlier than the seventeenth century. About the middle of that century the Sultān of Bijāpur seized Vellore. In 1676 the Marāthās captured it after four and a half months' siege. In 1708 Daud Khān from Delhi ousted the Marāthās. In 1710, when

it was, according to Orme, the strongest fortress in the Carnatic, it was given by Dost Alī to his son-in-law. The latter's son, Murtaza Alī, murdered the Nawāb Safdar Alī here in 1742. For more than twenty years the fort was the stronghold of Murtaza Alī, who defied the authority of his lawful chief, the Nawāb of Arcot, and his British allies. Shortly after 1760 Vellore was occupied by a British garrison. In 1780 Haidar Alī invested the place, which held out against overwhelming numbers and innumerable difficulties. A dozen times in the course of the siege there was not rice for three days' consumption, and all the energies of the Madras Government and of Sir Eyre Coote were directed to throwing in supplies. An assault, which was most gallantly and persistently made, was repulsed, and the siege reduced to a blockade which the garrison, although reduced to great straits, withstood for two years, till finally it was raised by the advance of an army from Madras and Haidar's death. In 1791 Vellore was the base for Lord Cornwallis's march on Bangalore. After the fall of Seringapatam (1799), the family of Tipū Sultān were detained here; and to their intrigues is attributed the mutiny of 1806, when most of the officers and a large number of European soldiers were massacred by the sepoys. The revolt was promptly put down by Colonel Gillespie, who was stationed at Arcot, and the Mysore princes were removed to Bengal.

The fort is surrounded by a ditch, which is supplied with water by a subterranean drain connecting it with a large reservoir near the railway station. The old entrance was by a winding roadway with massive gates protected by a drawbridge; but a straight road has now been cut through the rampart. On the south side a footway also crosses the ditch on a stone causeway. There is no other means of entrance across the ditch. The fort contains a church and several other buildings now occupied as public offices. The temple, formerly used for many years as an arsenal, is a most interesting structure. The best sculpture is found in the porch on the left of the entrance, which contains monolithic pillars of great beauty and delicacy of execution. It is said that the East India Company once proposed to send the building to the Prince Regent to be erected at Brighton.

Vemalwādā.—*Jāgīr* town in the Sirsilla *tāluk* of Karīmnagar District, Hyderābād State, situated in 18° 28′ N. and 78° 53′ E., 8 miles north of Sirsilla. Population (1901), 5,372. It contains a temple on the south of a large tank, in the enclosure of which is the tomb of a Musalmān saint regarded as sacred by Hindus and Musalmāns alike.

Vempalle.—Town in the Pulivendla *tāluk* of Cuddapah District, Madras, situated in 14° 22′ N. and 78° 28′ E., on the left bank of the Pāpaghni river, about 22 miles south-west of Cuddapah town. Population (1901), 10,793. A curious temple to Nandi stands on a round hill overhanging the river. Regarding the Pāpaghni valley the

following legend is currently believed. When Rāma conquered Rāvana in Ceylon and rescued Sītā, he dispatched the news of his victory to the country where he had lived so long in exile. On hearing it, the local governor here stretched across the gorge of the river a wreath of golden flowers. From that day to this, though the original wreath has long since vanished, its semblance appears, shortly before their death, to those whom the gods love. The story goes that as Sir Thomas Munro passed through this gorge on his farewell tour through his beloved Ceded Districts, he saw the wreath and pointed it out to his native followers. They could not themselves see the wreath, but they knew only too well the legend connected with it. Within a few days Sir Thomas died of cholera.

Vengi.—One of the ancient kingdoms of Southern India. It lay between the mouths of the Kistna and Godāvari rivers, and reached from the coast to a considerable distance inland. It was apparently originally a province of the Pallavas of Conjeeveram, and was conquered by the Chālukyas in the seventh century. Its capital seems to have been at Pedda Vegi, 8 miles north of Ellore in Kistna District, where the country is strewn with the remains of ancient temples and buildings and with mounds which probably cover other ruins.

Vengurla Tāluka.—Southernmost *tāluka* of Ratnāgiri District, Bombay, lying between 15° 44′ and 16° 1′ N. and 73° 30′ and 73° 42′ E., with an area of 65 square miles. It contains one town, VENGURLA (population, 19,018), the head-quarters; and 9 villages. The population in 1901 was 44,863, compared with 39,418 in 1891. The increase is attributable to a growth in Vengurla town, which has been fortunately free from plague. The density, 690 persons per square mile, is the highest in the District. The demand for land revenue in 1903–4 was Rs. 41,300, and for cesses Rs. 3,000. Coco-nut and areca-nut palms flourish on the hill-sides. The valley soil is generally rich. Water is abundant, and the annual rainfall averages nearly 105 inches.

Vengurla Town.—Head-quarters of the *tāluka* of the same name in Ratnāgiri District, Bombay, situated in 15° 52′ N. and 73° 38′ E., 84 miles south-by-east of Ratnāgiri town. Population (1901), 19,018. The value of sea-borne trade in 1902–3 was: imports 19 lakhs, and exports 15 lakhs. Piece-goods, yarn, silk, sugar, and fish are the chief articles of import; and coco-nuts, coir, molasses, and cashew-nuts the principal exports. Vengurla was formerly a retreat for the pirates who infested this coast, until in 1812 it was ceded by the chief of Sāvantvādi to the British. The Vengurla port lighthouses were erected in 1869 on the mainland at the northern point of the bay. They are masonry towers built on a hill. The height of the lanterns above high water is 250 feet, and that of the building from base to vane is 186 feet. They are furnished with double (25 feet apart) white, fixed, dioptric

lights, of order 6, visible from the deck of a ship 9 miles distant. From mid-June to the end of August the port is closed. The municipality, established in 1875, had an average income during the decade ending 1901 of Rs. 19,000. In 1903–4 the income was Rs. 19,750. The town contains a dispensary and seven schools, including three for girls.

In the early days after the British conquest Vengurla was a prosperous place, owing to its being the port for the military cantonments of Belgaum and Dhārwār. Until the construction of the Southern Mahratta Railway it monopolized the traffic with Bombay of Belgaum and other important towns in that District; but this traffic now passes direct by rail. In 1638 the Dutch had a trade settlement at Vengurla, where they victualled their ships during their eight months' blockade of Goa. In 1660, under the name of Mingrela, it is mentioned as a large town stretching half a league along the coast, with one of the best roads in India. About 1660 Sivajī placed a garrison in the town, and in 1664, in punishment for a revolt, burnt it to the ground. In 1675 it was again burned by the Mughals. In 1696 the Khemsāvant of Sāvantvādi overran the country, and, on pretence of visiting the Dutch chief, seized and plundered their factory. While held by the Khemsāvant, Vengurla is said to have been attacked and plundered by Angria. A small British factory was established at Vengurla some time before 1772. In 1812 the town was ceded to the British by the Rānī of Sāvantvādi. The *tāluka* offices and the Subordinate Judge's court are now located in the old Dutch factory.

The Vengurla Rock lighthouse, not to be confounded with the Vengurla port lighthouses, was erected in 1870, on an isolated rock in 15° 53′ N. and 73° 27′ E., 9 miles west-north-west of Vengurla. The Vengurla rocks or 'burnt islands' are a group of rocky islets stretching about 3 miles from north to south and one mile from east to west. On the outermost of three larger rocks is the lighthouse. It is a masonry tower, built on rising ground. The height of the lantern above high water is 132 feet, and that of the building 31 feet. It exhibits a single white, fixed, dioptric light, of order 4, which is visible from the deck of a ship 16 miles distant.

Venkatagiri Estate.—Estate in Nellore District, Madras, consisting of the two southern *zamīndāri tahsīls* of Polūr and Venkatagiri and the two northern *tahsīs* of Podili and Darsi, besides 176 villages scattered through the Gūdūr, Kanigiri, and Ongole *tāluks*.

According to the family records, the origin of the *zamīndāri* is traced to one Chevi Reddi, a cultivator in the Ammanabolu village of Telingāna, who is said to have discovered a hidden treasure of 9 lakhs while ploughing. With the wealth thus obtained, the lucky cultivator gained access to the court of the king of Warangal, where his descendants flourished for eighteen generations. About the year 1600 one

of the members of the family was commissioned by the Warangal Rājā to subdue Jagga Rāju, who was holding the fort at Venkatagiri. Being successful, he received the fort, which thenceforth became, and still is, the head-quarters of the family. The consolidation of the *zamīndāri* as now constituted followed in about 1700, on the demise of two of the three sons of Bangāru Yachama Nāyudu, between whom the *tāluks* had been divided. The *peshkash* of the *zamīndāri*, including cesses, amounted in 1903-4 to Rs. 4,26,000. The estate is held under a *sanad* granted in 1802 in the time of the second Lord Clive. The *zamīndār* has the hereditary title of Rājā.

Venkatagiri Tahsīl.—*Zamīndāri tahsīl* in the south-west of Nellore District, Madras, lying between 13° 50′ and 14° 11′ N. and 79° 27′ and 79° 55′ E., with an area of 426 square miles. The population in 1901 was 60,861, compared with 56,387 in 1891. The *tahsīl* contains one town, VENKATAGIRI (population, 13,302), the head-quarters; and 151 villages. To the west rise the Velikonda hills, which form the boundary between the Districts of Cuddapah and Nellore.

Venkatagiri Town.—Town in Nellore District, Madras, situated in 13° 58′ N. and 79° 35′ E. It is the chief town of the *zamīndāri* and *tahsīl* of the same name, and the head-quarters of a deputy-*tahsīldār*. Population (1901), 13,302. The town was destroyed by Haidar Alī, because the Venkatagiri Rājā sided with the British in the great struggle in the Carnatic; but it was rebuilt on a large scale after the establishment of British authority. It is noted for the manufacture of fine laced cloths.

Veppu.—Island in Cochin State, Madras. *See* VYPĪN.

Verapoli (*Varapuzha*).—Town in the Parūr *tāluk* of Travancore State, Madras, situated in 10° 4′ N. and 76° 17′ E., 9 miles north-east of Cochin. Population (1901), 331. It is the centre of a Carmelite mission. A body of barefooted Carmelites settled in Cochin in the seventeenth century, but were afterwards expelled by the Dutch East India Company. Thereupon the Rājā of Cochin gave them a piece of land at Verapoli, where they built a church. Dr. Day says that 'the church is a miniature representation of St. Peter's at Rome. It is perhaps the most exquisite little building in this part of India.' According to the Concordat of 1886, Verapoli was erected into an archdiocese, and all those portions of Travancore not coming under the diocese of Cochin were divided between the Archbishop of Verapoli and the Bishop of Quilon. The Catholic population under the Archbishop is about 70,000.

Verāval (*Velāvan*, formerly *Verrole*).—Port and town in the State of Junāgarh, Kāthiāwār, Bombay, situated in 20° 53′ N. and 70° 26′ E., and the terminus of the Jetalsar-Verāval branch of the Bhavnagar-Gondal-Junāgarh-Porbandar Railway. Population (1901), 16,775. The Devka

or Devika river flows north and west of Verāval, entering the sea near the temple of Jateshwar Mahādeo. A considerable trade is carried on with Maskat, Karāchi, and Bombay. In 1903–4 the value of the imports was 3 lakhs, and that of the exports 3·8 lakhs. The port has lately been much improved and supplies are plentiful. The boat anchorage is partially protected from north-west winds by a rocky spit running out from the outer bastion of the town, but the bottom is rocky inside of 11 fathoms. The coast east of Verāval is low and sandy for 4 or 5 miles. The port shows a white light, visible for 10 miles at sea.

Verūl.—Village in Aurangābād District, Hyderābād State. *See* ELLORA.

Vesāva.—Town in the Salsette *tāluka* of Thāna District, Bombay, situated in 19° 9′ N. and 72° 51′ E. Population (1901), 5,426. Close to it is the island of Madh, containing an old fort rebuilt by the Marāthās. Vesāva is a place of some commercial importance, its chief imports being grain, rice, teak, firewood, and coal-dust, valued at about 1·1 lakhs annually, and its exports lime and uncured fish, valued annually at nearly 4½ lakhs. During the last seven years several houses have been erected by native merchants of Bombay at Vesāva, which is now connected by a good road with the railway stations of Andheri and Santa Cruz. The town contains a boys' school with 28 pupils.

Vetapālemu.—Town in the Bāpatla *tāluk* of Guntūr District, Madras, situated in 15° 47′ N. and 80° 19′ E. Population (1901), 9,547. It has long been a place of some trade, and Streynsham Master in 1679 mentions it as the centre of the local weaving industry. A temple here is said to have been built by the Chola kings.

Victoria Point.—Subdivision of Mergui District, Lower Burma, conterminous with the MALIWUN township. The head-quarters are at Victoria Point.

Videha.—Ancient kingdom in North Bihār. *See* MITHILĀ.

Vidhyaman.—Petty State in the DĀNGS, Bombay.

Vijā-no-nes.—Petty State in KĀTHIĀWĀR, Bombay.

Vijāpur Tāluka.—Eastern *tāluka* of the Kadi *prānt*, Baroda State, with an area of 346 square miles. The population fell from 156,113 in 1891 to 117,286 in 1901. The *tāluka* contains two towns, VIJĀPUR (population, 8,510), the head-quarters, and LĀDOL (6,641); and 107 villages. It is an exceedingly well-wooded plain. The Khāri river crosses the *tāluka* to the north, while the Sābarmatī flows past the southern boundary. The soil is light and sandy. In 1904–5 the land revenue was Rs. 1,85,000.

Vijāpur Town.—Head-quarters of the *tāluka* of the same name in the Kadi *prānt*, Baroda State, situated in 23° 34′ N. and 72° 47′ E., on a branch of the Gaikwār's State Railway from Kālol on the Rājputāna-

Mālwā main line. Population (1901), 8,510. It possesses a Munsif's and magistrate's courts, dispensary, vernacular school, and local offices. The municipality receives an annual grant from the State of Rs. 1,700.

Vijayadurg (or Gheria).—Port in the Devgarh *tāluka* of Ratnāgiri District, Bombay, situated in 16° 33′ N. and 73° 20′ E., 170 miles south of Bombay. Population (1901), 2,339. It is one of the best harbours on the western coast; and being without any bar it may be entered in all weathers, and forms a safe south-west monsoon shelter even for large ships. In the fine season vessels may anchor anywhere in the harbour. The value of the sea-borne trade of the Vijayadurg port in 1903–4 was: imports 12 lakhs, and exports 7 lakhs. On the neck of rocky land that forms the south side of the bay or harbour, Vijayadurg, one of the strongest fortresses in the Konkan, rises grandly about 100 feet above the river. The fort is probably very old. It was enlarged under the Bijāpur kings; and about the middle of the seventeenth century it was much strengthened by Sivajī, to whom it owes its triple line of walls, numerous towers, and massive interior buildings. In about 1698 the pirate chief Angria made it the capital of a territory stretching for about 150 miles along the coast and from 30 to 60 miles inland. In 1756 the fort was bombarded by the English fleet under Admiral Watson, and Colonel (afterwards Lord) Clive took possession. Towards the close of the same year it was handed over to the Peshwā, in exchange for Bānkot. In 1818, the whole of the District having passed to the British, the commandant of the fort surrendered. Vijayadurg contains three schools. The local carpenters make much-admired ornaments of various kinds from bison-horn; but the industry is very small and the craftsmen are heavily indebted.

Vijayanagar.—Vijayanagar, 'the city of victory,' the capital of the empire of that name, stood on the right bank of the Tungabhadra, in the present Hospet *tāluk* of Bellary District, Madras, situated in 15° 20′ N. and 76° 28′ E. The only part of it now inhabited is the tiny hamlet of Hampi, and the remains of the great city are often called 'the Hampi ruins.' They cover 9 square miles, but the fortifications and outposts of the city included a far larger area. The entrance from the south-west, for example, was at one time a fortified gate on the huge embankment which stands at the foot of the hills 2 miles beyond Hospet, 9 miles as the crow flies from the centre of the ruins.

The site of the old city is a strangely wild place to have been the birthplace and capital of an empire. The whole area is dotted with little rocky hills; and immediately to the north the wide and rapid Tungabhadra hurries along a boulder-strewn channel down rapids and through narrow gorges. The hills are of granite, weathered to every shade of colour from a bluish-grey to a rich golden brown, and have hardly a shrub or a blade of grass upon them. The alternate burning

days and chilly nights of the Deccan climate have seamed and split in every direction the huge masses of solid rock of which they originally consisted; while the earthquakes of remote ages and the slower processes of denudation have torn from their flanks the enormous boulders which were thus formed, and have piled these up about their sides in the most fantastic confusion or flung them headlong into the valleys below. Many of them must weigh hundreds of tons. In places cyclopean masses stand delicately poised one upon another at the most hazardous angles, in others they form impassable screes, while those which have yet to fall often stand boldly out from the hills as single giant tors, or range themselves in castellations and embattlements, which, but for their vastness, would seem to be the work of man rather than of nature. As one writer has described it:—

> 'Far as the eye can reach for 10 square miles there is nothing between heaven and earth but boulders; the earth is paved with them, the sky is pierced with them . . . literally in thousands of all sizes . . . heaps upon heaps, in one instance 250 feet in height.'

Up the sides of these hills and along the low ground between them, often in several lines one behind the other, run the fortified enclosing walls of the old city, and in the valleys among them stand its deserted streets and ruined palaces and temples. The lowest ground of all is covered with fields of tall *cholam* or of green and golden rice watered by the channel which one of the kings led from the Tungabhadra to supply the people, and irrigate the orchards and rose-gardens, of his capital. To know Vijayanagar at its best, the visitor should climb the slippery steps leading to the little shrine on the top of the hill called Matanga Parvatam, and watch the evening light fade across the ruins; and if the fates are kind and grant him the added glory of a Deccan sunset, he will surely return content.

The city was founded in 1336; and its importance in South Indian history lies in the fact that it was a stronghold of the Hindus, and that for two and a half centuries it successfully opposed the southward movement of the Musalmān arms. It grew with amazing rapidity from the fortress of a petty chief to be the capital of a great empire which embraced all Southern India beyond the Kistna river. At the height of its prosperity, which was reached under its famous king Krishna Deva Rāya, a contemporary of Henry VIII of England, it was known throughout India and even in Europe. Many foreigners visited it, and several glowing descriptions of its glories have come down to us. These and a history of the dynasty will be found in Mr. R. Sewell's *A Forgotten Empire* (1900). Krishna Deva's successor, Achyuta (1530–42), was a weak yet tyrannical ruler, and his conduct and mode of government ruined the Hindu cause in the South. His nobles

rebelled against his authority, and all real power fell into the hands of three brothers. The chief of these was Rāma Rājā, who did much to repair the blunders of Achyuta and restore the prestige of the empire; but his haughty treatment of the hereditary foes of Vijayanagar, the Musalmān Sultāns of the Deccan, goaded them at length to forget their mutual animosities and combine against him. The decisive battle of Tālikotā was fought in 1565, when Rāma Rājā and one of his brothers were slain, and the Hindus were utterly defeated. The next day the puppet king fled from the city to PENUKONDA in Anantapur District, with 550 elephants laden with treasure valued at more than 100 millions sterling. The third day the victorious Musalmāns arrived at Vijayanagar, and for five months they employed themselves in deliberately destroying everything destructible within the city. Two years later Cesare de' Federici, an Italian traveller, visited the place and wrote of it that 'the houses stand still, but emptie, and there is dwelling in them nothing, as is reported, but Tygres and other wild beasts.' The representatives of the old dynasty maintained a hollow state for many years at PENUKONDA and CHANDRAGIRI; but their feudatories renounced their allegiance, the Musalmāns captured their strongholds one after the other, and eventually they lost all semblance of power. The existing representative of the line is the Rājā of ANEGUNDI in the Nizām's Dominions, who possesses a small estate and draws a pension from the British Government.

The best base from which to see what remains of the ruined city of Vijayanagar to-day, three centuries and more since its destruction, is Kāmalāpuram, 7 miles from Hospet railway station, where a deserted temple converted into a dwelling by a former Collector is now used as a travellers' bungalow. A detailed account of the chief of the many buildings in the ruins will be found in the *Gazetteer* of Bellary District (1904). Space prevents allusion here to more than one or two.

The palace enclosure, which was doubtless originally the most splendid part of the city, seems to have been the special object of the destructive energy of the Musalmāns, and in much of it scarcely one stone stands upon another. The Queens' Bath, the so-called Council Chamber, and the Elephant Stables remain; but the most striking building is the temple of Hazāra Rāmaswāmi, or 'the thousand Rāmas,' which is supposed to have been the private place of worship of the kings. The courtyard walls of this are covered with sculptures depicting scenes from the Rāmāyana, carved with great life and spirit. Nearer the river is a huge statue of Narasimha, the Man-lion incarnation of Vishnu, 22 feet high, which is cut from a single boulder and yet finished with the greatest delicacy. The Musalmāns succeeded in shattering this huge statue—probably by lighting fires round and upon it. On the river bank is the great temple of Pampāpati, the tall tower

of which is one of the striking features of the ruins. It was built by Krishna Deva, who did more than any of his line to beautify the capital. Leading up to it is the most perfect of the ruins of the old streets of the city. It is nearly 800 yards long, and many of the houses in it are still standing. It was described by one of the old chroniclers as being in his time a very beautiful street of very beautiful houses with balconies and arcades. Near the farther end is the deep gorge which the Tungabhadra has cut among the rocky hills. In flood-time this is an impressive sight. Farther along the river bank is the great temple of Vitthalaswāmi, one of the most notable of all the ruins. Krishna Deva began it and his successors continued the work, but the fall of the city prevented its completion. The size of the blocks of stone used in its construction is even more enormous than elsewhere, and the sculpture upon them surpasses that in any part of the city. Inside the courtyard is a handsome car for the god's processions, made of stone instead of wood. On either side of the court stand two *mantapams*, which in any other situation would be considered notable instances of rich design and patient, careful workmanship. But they are entirely dwarfed by the building which is the glory of the temple and of the ruins—the great hall which stands in front of the shrine. This rests on a richly sculptured basement, and its roof is supported by huge masses of granite, 15 feet high, each consisting of a central pillar surrounded by detached shafts, figures mounted on demons, and other ornament, all cut from a single block of stone. These are surmounted by an elaborate and equally massive cornice; and the whole is carved with a boldness and expression of power nowhere surpassed in the buildings of its class, showing the extreme limit in florid magnificence to which the style advanced. This beautiful building has been grievously injured by the destroyers of the city. Several of the carved pillars have been attacked with such fury that they are hardly more than shapeless blocks of stone, and a large portion of the centre has been destroyed utterly.

If local tradition be credited, there was a town on this site many centuries before the kings of Vijayanagar selected it for their capital. Some of the most dramatic scenes in the great epic of the Rāmāyana occurred at a place called in the poem Kishkindha, and it is asserted by the local Brāhmans that this Kishkindha was close to Hampi. Here Rāma first received definite news of his wife Sītā, Hanumān, the minister of the king of the place, having seen her as she was being carried through the air by the ravisher Rāvana, the ten-headed king of Ceylon. Here the forces were collected for the attack on that island, and here Hanumān marshalled the monkey host which built the bridge across the strait by which they all crossed. The place is accordingly held holy by Hindus; and an annual festival, which was once attended by

very large crowds but has now declined in importance, is held at the Pampāpati temple. The ruins are now specially conserved by Government to protect them from destruction by seekers for hidden treasure and other vandals, and a survey on a large scale is being carried out.

Vijayanagaram.—Subdivision, *zamīndāri tahsīl*, estate, and town in Vizagapatam District, Madras. *See* VIZIANAGRAM.

Vilinjam (also called Rājendracholapuram).—Port in the Neyyāttinkara *tāluk* of Travancore State, Madras, situated in 8° 23′ N. and 76° 59′ E., 12 miles south of Trivandrum. Population (1901), 1,879. It was once an important seaport, and the capital of the Chola kings who conquered and settled in Travancore. About 1644 it was granted by the Rājā of Venād to the English East India Company, who erected a factory and carried on trade. With their withdrawal to Anjengo forty years later, its importance declined. On an average only eight vessels touch at the port in a year.

Villupuram Tāluk.—*Tāluk* in South Arcot District, Madras, lying between 11° 47′ and 12° 10′ N. and 79° 15′ and 79° 52′ E., on the coast of the Bay of Bengal, with an area of 509 square miles. The French Settlement of PONDICHERRY is within its boundaries. It contains 300 villages and one town, VILLUPURAM (population, 11,263), the head-quarters. The population, which consists mainly of Hindus, rose from 301,746 in 1891 to 313,607 in 1901, the rate of increase being 3·9 per cent., the lowest for any *tāluk* in the District. The demand for land revenue and cesses in 1903–4 amounted to Rs. 6,65,000. Villupuram is an almost level plain, devoid of natural features, covered with the fertile alluvium of the Ponnaiyār basin, and sloping gradually to the sea.

Villupuram Town.—Head-quarters of the *tāluk* of the same name in South Arcot District, Madras, situated in 11° 56′ N. and 79° 29′ E., on the road to Trichinopoly. It is an important junction on the South Indian Railway, the branch from Pondicherry and the Villupuram-Dharmavaram section which connects with the Southern Mahratta Railway meeting the main line here. It was taken by Captain Wood in 1760, and was then held by a British garrison to intercept communication with Gingee. It is a Union under the Local Boards Act, with a population (1901) of 11,263.

Vinchhāvad.—Petty State in KĀTHIĀWĀR, Bombay.

Vinchūr.—*Saranjām* estate in Nāsik District, Bombay. It formerly consisted of 45 villages in Nāsik District, 6 villages in Ahmadnagar, and 2 in Poona. In 1892 half the estate, including Yeola, lapsed to Government, and it now contains 26 villages, all in Nāsik District. Population (1901), about 10,700. Rental, about Rs. 37,000. Vinchūr was granted as a military or *saranjām* estate to Vithal Sivdeo, an ancestor of the present chief, who distinguished himself at the capture

of Ahmadābād by the Marāthās in 1755. The chief ranks as a first-class Sardār of the Deccan. He settles without appeal such civil suits as arise among the people of his villages, and in criminal matters has the power of a first-class magistrate. His residence is at Vinchūr, situated in 20° 6′ N. and 74° 14′ E., 4 miles south-west of Lāsalgaon on the north-east line of the Great Indian Peninsula Railway. Population (1901), 4,839. Vinchūr is surrounded by a mud wall in fair repair.

Vindhya Hills (*Ouindion* of Ptolemy).—A range of hills separating the Gangetic basin from the Deccan, and forming a well-marked chain across the centre of India. The name was formerly used in an indefinite manner to include the Sātpurā Hills south of the Narbadā, but is now restricted to the ranges north of that river. The Vindhyas do not form a range of hills in the proper geological sense of the term, that is, possessing a definite axis of elevation or lying along an anticlinal or synclinal ridge. The range to the north of the Narbadā, and its eastern continuation the Kaimur to the north of the Son valley, are merely the southern scarps of the plateau comprising the country known as Mālwā and Bundelkhand. The features of the Vindhyas are due to sub-aerial denudation, and the hills constitute a dividing line left undenuded between different drainage areas. From a geographical point of view, the Vindhyan range may be regarded as extending from Jobat (22° 27′ N. and 74° 35′ E.) in Gujarāt on the west to Sasarām (24° 57′ N. and 84° 2′ E.) in the south-western corner of Bihār on the east, with a total length of nearly 700 miles. Throughout the whole length as thus defined the range constitutes the southern escarpment of a plateau. The Rājmahāl Hills, extending from Sasarām to Rājmahāl and forming the northern escarpment of the Hazāribāgh highlands, cannot be correctly considered as a part of the Vindhyas.

The range commencing in Gujarāt crosses the Central India Agency from Jhābua State in the west, and defines the southern boundary of Saugor and Damoh Districts in the Central Provinces. From here the KAIMUR branch of the range runs through Baghelkhand or Rewah and the United Provinces into Bihār. The Kaimur Hills rise like a wall to the north of the Son valley, and north of them a succession of short parallel ridges and deep ravines extends for about 50 miles. At Amarkantak the Vindhyas touch the Sātpurā Hills at the source of the Narbadā. Westward from Jubbulpore District they form the northern boundary of the valley of that river. Their appearance here is very distinctive, presenting an almost uninterrupted series of headlands, with projecting promontories and receding bays, like a weather-beaten coast-line. In places the Narbadā washes the base of the rocks for miles, while elsewhere the hills recede and are seen from the river only as a far-off outline with the plains of Bhopāl or Indore spread out below them. The rocks are sandstone of a pinkish colour and

lie in horizontal slabs, which commonly testify to their origin by curious ripple marks plainly formed by the lapping of water on a sandy shore. To the north of this escarpment lies the Bundelkhand or Mālwā plateau, with a length of about 250 miles and a width at its broadest part of about 225 miles. The plateau is undulating and is traversed by small ranges of hills, all of which are considered to belong to the Vindhyan system.

The most northerly of these minor ranges, called the Bindhāchal, cuts across Jhānsi, Bāndā, Allahābād, and Mirzāpur Districts in the United Provinces, nowhere rising above 2,000 feet. The range here presents the appearance of a series of plateaux, each sloping gently upward from south to north, and ending abruptly in the steep scarp which is characteristic of these hills. Many outlying isolated hills are found in these Districts, standing out on the plains beyond the farthest scarp. One small hill, called Pabhosā, rises on the left bank of the Jumna, the only rock found in the Doāb. The Bhānrer or Pannā hills, which form the south-eastern face of the Vindhyan escarpment, bound the south of Saugor and Damoh Districts and the north of Maihar State in continuation of the Kaimur, thus being a part of the main range. They run from north-west to south-east for about 120 miles. Their highest peak is that of Kalumar (2,544 feet). Two other branches of the range lie in Mālwā, starting respectively near Bhīlsa and Jhābua with a northerly direction, and bounding the plateau to the east and west.

The general elevation of the Vindhyan range is from 1,500 to 2,000 feet, and it contains a few peaks above 3,000, none of which is of any special importance. The range forms with the Sātpurās the watershed of the centre of India, containing the sources of the Chambal, Betwā, Sonār, Dhasān, and Ken rivers, besides others of less importance. The Son and Narbadā rise at Amarkantak, where the Vindhyan and Sātpurā ranges meet. The rivers generally rise near the southern escarpment and flow north and north-east.

Geologically, the hills are formed principally of great massive sandstones of varying consistency, alternating with softer flags and shales, the whole formation covering an area not greatly inferior to that of England. The range has given its name to the Vindhyan system of geological nomenclature. Over a great part of the Mālwā plateau the sandstone is covered by the overflowing Deccan trap, while from Ginnurgarh in Bhopāl to near Jobat the range itself is of basaltic formation, and the last 60 miles to the west from Jobat to near Jambhughorā consist of metamorphic rocks. In the north, the underlying gneiss is exposed in a great gulf-like expanse. Economically, the Vindhyan rocks are of considerable value, the sandstone being an excellent building material which has been extensively used for centuries; the Buddhist

topes of Sānchī and Bhārhut, the eleventh-century temples of Khajrāho, the fifteenth-century palaces of Gwalior, and numerous large forts at all important positions on the plateau having been constructed of this material. At Nāgod and other places limestone is found in some quantity, the pretty coralline variety, extracted from the Bāgh cretaceous beds, having been extensively employed in the palaces and tombs at Māndū; and at Pannā, in the conglomerate which underlies the shales, diamonds are met with, though none of any great value is known to have been extracted. Iron, manganese, and asbestos are also found in various parts of the range. The lofty flat-topped hills and bold scarps which are such a marked feature of this range were early recognized as ideal sites for fortresses; and, besides the historical strongholds of Gwalior, Narwar, Chanderī, Māndū, Ajaigarh, and Bāndhogarh, the hills are studded with the ruined castles of marauding Girāsiā and Bundelā chiefs.

The hills are generally covered with a stunted forest growth of the several species found in the dry forests of Central India. Teak occurs only in patches and is of small size, while the forests are generally noticeable for their poverty in valuable timbers.

The term Vindhya in Sanskrit signifies 'a hunter'; and the range occupies a considerable place in the mythology of India, as the demarcating line between the Madhya Desa or 'middle land' of the Sanskrit invaders and the non-Aryan Deccan. The Vindhyas are personified in Sanskrit literature, where they appear as a jealous monarch, the rival of king Himālaya, who called upon the sun to revolve round his throne as he did round the peak Meru. When the sun refused, the mountain began to rear its head to obstruct that luminary, and to tower above Himālaya and Meru. The gods invoked the aid of Agastya, the spiritual guide of Vindhya. This sage called upon the Vindhya mountain to bow down before him, and afford him an easy passage to and from the South. It obeyed and Agastya passed over. But he never returned, and so the mountain remains to the present day in its humbled condition, far inferior to the Himālaya. Another legend is that when Lakshmana, the brother of Rāma, was wounded in Ceylon by the king of the demons, he wished for the leaves of a plant which grew in the Himālayas to apply to his wound. Hanumān, the monkey-god, was sent to get it; and not knowing which plant it was, he took up a part of the Himālayas and carried them to Ceylon. He happened to drop a portion of his load on the way, and from this the Vindhyan Hills were formed.

Vinukonda Tāluk.—Western *tāluk* of Guntūr District, Madras, lying between 15° 50′ and 16° 24′ N. and 79° 32′ and 79° 55′ E., with an area of 646 square miles. The population in 1901 was 82,493, compared with 82,445 in 1891. VINUKONDA, the head-quarters,

has 7,266 inhabitants, and there are 71 villages. The demand on account of land revenue and cesses in 1903–4 amounted to Rs. 1,87,000. Great part of the *tāluk* is covered with black soil, through which protrude many little rocky hills. On the north-west is much scrub jungle. Along the course of the Gundlakamma, which flows through the southern portion, prehistoric implements have been found, and stone circles (dolmens) and numerous inscriptions of later times are to be seen in many villages. There are indications of copper and iron among the hills.

Vinukonda Town ('Hill of hearing,' said to be so called because here Rāma first heard of the abduction of his wife).—Head-quarters of the *tāluk* of the same name in Guntūr District, Madras, situated in 16° 3′ N. and 79° 44′ E. Population (1901), 7,266. It has been constituted a Union. It lies close under the hill after which it is named. This has a striking summit, consisting of two peaks, one of which is almost inaccessible and the other contains the ruins of an old fort. These last have been so thoroughly demolished that their line can now hardly be traced, but they include the remains of an old powder magazine, a temple, and other buildings. With Bellamkonda and Kondavīd, Vinukonda formed a triangle of fortresses which were the scene of severe fighting in the sixteenth century. The place was taken by the Vijayanagar king Krishna Deva in 1515, and passed finally under the Golconda Sultāns in 1579. After the English took Masulipatam, this fort was regarded as of much importance. The Company established a garrison here in 1790, and made it a dépôt for stores and constructed residences for officers. In 1808 it was abandoned, the fortifications being demolished and the stores removed to Masulipatam.

Viramgām Tāluka.—North-western *tāluka* of Ahmadābād District, Bombay, lying between 22° 48′ and 23° 37′ N. and 71° 42′ and 72° 18′ E., with an area of 675 square miles. The population in 1901 was 113,103, compared with 152,022 in 1891, the decrease being due to famine. The density, 168 persons per square mile, is less than the District average. It contains three towns, VIRAMGĀM (population, 18,952), the head-quarters, MANDAL (5,091), and PĀTRI (5,544); and 156 villages. Land revenue and cesses in 1903–4 amounted to 2·3 lakhs. Except in the north, where the surface is broken by rolling sandhills, with patches of brushwood, Viramgām is a plain of thinly wooded light soil in the east, and of open black soil to the west and south, ending in the salt level of the Rann of Cutch. More than half of the total area is occupied by alienated and *tālukdāri* villages. The sandy tract in the north is inhabited by Kolīs, who dislike regular work, though they have long ceased to be turbulent.

Viramgām Town.—Head-quarters of the *tāluka* of the same name

in Ahmadābād District, Bombay, situated in 23° 7′ N. and 72° 3′ E., on the Wadhwān branch of the Bombay, Baroda, and Central India Railway, and also the junction for the Gaikwār-Mehsāna and the Khārāghoda sections of the Rājputāna-Mālwā Railway. Population (1901), 18,952. The town possesses two cotton-mills, and is the centre of the cotton and oilseed trade of the District. Viramgām has a municipality, established in 1857, with a revenue averaging about Rs. 35,000 during the decade ending 1901. The income in 1903–4 amounted to Rs. 37,500. It is supplied with water chiefly from three reservoirs, of which the Mansar lake, built about 1090 by Minal Devī, the mother of Sidh Rājā, king of Anhilvāda (1094–1143), is the chief attraction of the place. It is bordered by numerous small shrines of architectural merit. Close by are two old temples devoted to Krishna and Mahādeo. The town contains a Sub-Judge's court, two dispensaries, a high school with 49 pupils, and a middle school with 126 pupils.

Vīrarājendrapet (generally called Vīrājpet).—Head-quarters of the Yedenālknād *tāluk* of Coorg, Southern India, situated in 12° 12′ N. and 75° 49′ E., 20 miles south of Mercāra. Population (1901), 4,283 (2,256 Hindus, 1,517 Muhammadans, 452 Christians, and 58 others). The municipal income in 1903–4 was Rs. 7,500 and the expenditure Rs. 18,000. The town was founded by Dodda Vīra Rājendra (after whom it is named) in 1792, in commemoration of the meeting which took place here between himself and General Abercromby, the British commander advancing with the Bombay force against Seringapatam. It is prettily situated at the foot of the Male Tambiran hill. The fair held every Wednesday attracts a great concourse of Coorgs. The Christian population consists of a Roman Catholic community of Konkanis, who escaped from the persecution of Tipū, and to whom the Coorg Rājā granted a settlement here. The trade with the West Coast in coffee, rice, and cardamoms makes it the most important commercial town in Coorg. Next to the public offices, the most conspicuous building is the Roman Catholic church, rebuilt some years ago in the Gothic style, with a copper roof.

Vīravanallūr.—Town in the Ambāsamudram *tāluk* of Tinnevelly District, Madras, situated in 8° 42′ N. and 77° 31′ E., with a station on the Tinnevelly-Quilon branch of the South Indian Railway. It is a Union, with a population (1901) of 17,327. A large weaving industry exists, and several streets are wholly occupied by the weaver castes. The articles chiefly made are coarse towels and *mundus*, the national dress of the people of Travancore.

Vīravāsaram.—Village in the Bhīmavaram *tāluk* of Kistna District, Madras, situated in 16° 32′ N. and 81° 37′ E. Population (1901), 6,464. Vīravāsaram (the Verasheroon of the old records) was one

of the earliest English settlements on this part of the coast, but was abandoned in 1702.

Vīravilli.—*Zamīndāri tahsīl* in Vizagapatam District, Madras, lying between 17° 36′ and 18° 5′ N. and 82° 36′ and 83° 5′ E., partly in the Agency tract and partly in the plains; the Agency portion is very hilly and a great part of it is clad with jungle. The Agency portion has an area of 131 square miles, containing 31 villages and a population of 7,590 (chiefly hill tribes); and the ordinary portion, 424 square miles, with a population of 209,228, living in 236 villages. The total population in 1901 was 216,818, compared with 203,537 in 1891. The head-quarters are at Chodavaram (population, 5,705). The demand for land revenue and cesses in 1903–4 amounted to Rs. 62,700. The largest village in the *tahsīl*, Mādugula (population, 8,952), is the residence of the *zamīndār*, whose estate comprises the whole of the Agency portion and the north of the ordinary portion. The rest belongs to the Vizianagram estate. Vīravilli is extensively cultivated, the Sāradā river, which flows through it, affording good irrigation.

Vīrpur.—State in the Kāthiāwār Political Agency, Bombay, lying between 21° 47′ and 21° 55′ N. and 70° 42′ and 70° 46′ E., with an area of 67 square miles. The population in 1901 was 6,152, residing in 13 villages. The revenue in 1903-4 was Rs. 65,363, and 34 square miles were cultivated. The State ranks as a fourth-class State in Kāthiāwār. Vīrpur was the earliest offshoot of Navānagar. The founder of the house, Bhānjī, a son of Jām Vibhojī I, received Kālāvad in apanage. His son Bhārojī, quitting Kālāvad, established himself in a subordinate position in the Muhammadan *thāna* of Kharedi. Here he made himself useful to the *thānadār* in expelling the Kāthīs, and received a portion of their lands. Mokojī, the seventh in descent from Bhārojī, obtained the sole possession of Kharedi, expelling the *thānadār* in 1766. He also conquered Vīrpur and two other villages from the Kāthīs, who had occupied that town on the dissolution of the Mughal power; and he made a consolidated *tāluka* of 13 villages with Vīrpur as his capital.

Virsoda.—Petty State in Mahī Kāntha, Bombay.

Viruddhāchalam. — *Tāluk* and town in South Arcot District, Madras. *See* Vriddhāchalam.

Virudupatti. —Town and railway station in the Sāttūr *tāluk* of Tinnevelly District, Madras, situated in 9° 35′ N. and 77° 57′ E., on the Madura border. It is a Union, with a population (1901) of 16,837, of whom a large number are Shānāns. Virudupatti is an active centre of the cotton trade, and possesses five cotton-pressing and ginning mills which afford employment to more than 400 hands.

Virvao.—Petty State in Kāthiāwār, Bombay.

Vishālgarh State.—Petty State feudatory to Kolhāpur, within the

Political Agency of Kolhāpur and the Southern Marāthā Country, Bombay; its central point is situated in about 16° 52′ N. and 73° 50′ E. *See* KOLHĀPUR STATE.

Vishālgarh Fort.—Fort in the feudatory *jāgīr* of the same name in Kolhāpur State, Bombay, crowning the Gajāpur hill, situated in 16° 54′ N. and 73° 47′ E., about 45 miles north-west of Kolhāpur city; 3,200 feet long by 1,040 feet broad. The walls, gateways, and towers are almost entirely ruined. Population (1901), 93. Besides the old mansion of the Kolhāpur Pratinidhi, the chief building is a mosque with the tomb of Hazrat Malik Rahān Pīr, which is visited both by Hindus and by Musalmāns. The fort contains a large reservoir and two smaller cisterns. According to tradition, about the year 1000 Vishālgarh was in possession of a Hindu king named Bhopāl, who built the reservoir which still bears his name. There are two inscriptions in Persian left by the Musalmāns. About 1453, while attacking Vishālgarh, Malik-ut-Tujār, a general of Alā-ud-dīn Khān Bahmani (1435–58), was caught in an ambush and his whole army cut to pieces by a local Marāthā chief named Shankar Rao More. In 1469 Shankar Rao was defeated by the Bahmani general Mahmūd Gawan, who took Vishālgarh after a nine months' siege. After the fall of the Bahmani dynasty in 1489, Vishālgarh continued under Bijāpur till in 1659 it was taken by Sivajī. In 1661 a large Bijāpur army under Fāzil Khān besieged the fort for several months, and tried to take it by mining the western corner and bombarding it from the top of the Ghonasli hill. Traces of the wells which were dug for the Bijāpur army remain at the neighbouring village of Gajāpur, and the rocky ground which was occupied by the troops is still known as Bādshāh-chā-Māl or 'the royal terrace.' In 1730, when Kolhāpur was finally separated from Sātāra, the grant of Vishālgarh was continued to Janārdan Pant, the Kolhāpur Pratinidhi, by a fresh patent or *sanad* passed by Sambhājī. Till 1844 Vishālgarh continued to be the head-quarters of the family. In 1844, as the fort had been occupied by the rebels, it was dismantled and the Pratinidhi's head-quarters were moved to Malkāpur.

Vishnupur.—Subdivision and town in Bānkurā District, Bengal. *See* BISHNUPUR.

Visnagar Tāluka.—Eastern *tāluka* of the Kadi *prānt*, Baroda State, with an area of 172 square miles. The population fell from 92,485 in 1891 to 70,989 in 1901. The *tāluka* contains two towns, VISNAGAR (population, 17,268), the head-quarters, and VĀLAM (5,337); and 54 villages. The bare treeless portion of the *tāluka* is most uninteresting, but towards the south and west trees become more frequent. The soil is light and sandy. In 1904–5 the land revenue was Rs. 2,06,000.

Visnagar Town (or Vīsalnagar).—Head-quarters of the *tāluka* of

the same name, Kadi *prānt*, Baroda State, situated in 23° 41′ N. and 72° 33′ E., on a branch of the Gaikwār's State Railway from Mehsāna to Kherālu. Population (1901), 17,268. Of the origin of the town various accounts have been given. One is that it was founded by Vīsal Deva, the Vāghela prince, between 1243 and 1261; another that its foundation was due to Vīsal Deva, the Chauhān, about 1046. Visnagar is the home of one of the six classes of Nāgar Brāhmans, and gives its name to a subdivision known as Visnagar Brāhmans; many of these are now followers of Swāmi Nārāyan, the religious reformer from CHHAPIĀ in the United Provinces. The town contains the court of the Kadi *prānt* judge, a jail, dispensary, vernacular and Anglo-vernacular schools, and other public offices, together with numerous *dharmsālas* and temples. A stone-built tank is also deserving of notice. The municipality, which was reconstituted in 1905 on a partly elective basis, has an income of Rs. 5,000 from customs, excise, and tolls, besides an annual grant from the State of Rs. 2,000. Visnagar is a great centre of trade, but is not famous for any special manufacture except that of brass and copper utensils. These are exported in large quantities to Ahmadābād, Kāthiāwār, Baroda, and even Bombay.

Vita.—Head-quarters of the Khānāpur *tāluka* of Sātāra District, Bombay, situated in 17° 16′ N. and 74° 32′ E., 48 miles south-east of Sātāra town. Population (1901), 5,035. Vita, which is surrounded by walls of mud and stone, has been a municipality since 1854, with an average municipal income during the decade ending 1901 of Rs. 2,700. In 1903–4 the income was Rs. 3,700. An ancient mansion on the east wall is now used as a *gānja* warehouse. The town contains a Subordinate Judge's court.

Vithalgarh.—Petty State in KĀTHIĀWĀR, Bombay.

Vizagapatam District (*Vaisākhapattanam*, 'town of Vaisākha,' the Hindu Mars).—One of the northern coast Districts of the Madras Presidency, lying along the Bay of Bengal between 17° 15′ and 20° 7′ N. and 81° 24′ and 84° 3′ E., about midway between Madras and Calcutta. It has a coast-line of 110 miles and an extreme inland extension of about 180 miles. In area it is the largest District in the Presidency, and one of the largest in India, covering 17,222 square miles. It is of very regular shape, and is bounded on the east by the Bay of Bengal; on the north by Ganjām District and some Native States of Bengal; on the west by the Central Provinces; and on the south by Godāvari District.

Physical aspects.

Vizagapatam is for the most part hilly and picturesque, especially in its northern portion, and contains some of the wildest and least civilized areas in the Presidency. It falls into two well-defined tracts: a mountainous and for the most part jungle-clad region on the north, and an extensively cultivated plain on the south, the line of division being formed by the

southern escarpment of the EASTERN GHĀTS, which pass through the District in a direction running roughly from north-east to south-west and averaging 2,000 or 3,000 feet in height. This range forms the main watershed of the country, the streams on the south and east flowing direct to the sea, while the drainage of the northern slopes passes westward by means of the Machkund, Sābari, Sileru, Bhaskel, Indrāvati, and other rivers to join the Godāvari. This northern drainage slope is mainly made up of the *tahsīls* which constitute the great JEYPORE ESTATE, and is composed of three fairly distinct plateaux. The southern and central of these, comprising the Padwa, Pottangi, and Koraput *tahsīls*, has an average elevation of 3,000 feet, with peaks rising here and there to over 5,000 feet, and consists of open barren uplands and cultivated valleys. North and west of this lies another plateau comprising the Nowrangapur and Jeypore *tahsīls*, 1,000 feet lower; while in the south-west angle of the District a third plateau, the Malkangiri *tahsīl*, is still lower and for the most part covered with magnificent forests. In the extreme north-western corner of the District another watershed turns the streams rising there into the Mahānadī; and east of this, divided from it by the State of Kālāhandī in Bengal, lies the upland part of the Pārvatīpuram *tahsīl*, the confused hills of which drain into the twin valleys of the Nāgāvali (or Lāngulya) and Vamsadhāra rivers. The former of these streams rises in a remarkable mass of hills called the Nīmgiris, about 5,000 feet in elevation, and separated from the neighbouring ranges by deep valleys; the latter, which is 120 miles in length, flows into the Bay of Bengal through the adjoining District of Ganjām.

As the main watershed passes centrally through the District, the rivers are usually short. Those which run into the sea are irregular in flow; in the Jeypore country the streams are perennial, but are rapid and tortuous. Thus neither series is of importance for irrigation or navigation.

The fundamental rocks of the District are all gneisses and igneous rocks of the Archaean group. They outcrop in lines running mainly north-east and south-west, which direction determines that of the chief plateaux and minor hill ranges. The surface rocks include, among others, horizontal terraces and plateaux 80 feet thick of high-level pisolitic laterite, lying at about 4,000 feet above the sea on parts of the watershed north of the latitude of Koraput, and spreading out in the direction of the Kālāhandī State. This laterite contains much hydrated alumina, and will possibly prove of value as an ore of aluminium. Other recent deposits comprise the younger alluvium of the plains and an older red lateritic loam, as at Waltair and on the lower plateaux south of Jeypore.

The flora of Vizagapatam varies greatly with the variations in altitude

and moisture which occur within the District. Along the shore are found the salt-water plants; on the dry plain farther west the ordinary trees and plants of the east coast; and on the hills, where the rainfall is heavier, the flora characteristic of the moist region of the Presidency. Sir Walter Elliot's *Flora Andhrica* contains a list, with vernacular equivalents, of the plants of this part of the country.

In the hill country the wild animals usual in South Indian forests are still abundant, especially in the more remote parts, which constitute one of the best game tracts left in Madras; but the only species calling for notice is the wild buffalo (*Bos bubalus*), which is found in some of the remoter parts of the Jeypore estate and nowhere else in the Presidency.

The varied configuration of the District results in its possessing several different climates: it is moist and relaxing along the coast, hotter and drier inland, and wettest and coldest in the hills. The yearly mean temperature of Vizagapatam town (Waltair) on the coast is 82°, the climate being pleasant in the cold season but somewhat relaxing at other times. The most prevalent disease is malarial fever, which differs widely in intensity according to locality, being of a comparatively mild type on the plains, but endemic and exceptionally severe in the hill country of Jeypore and Pārvatīpuram. Beri-beri prevails along the coast, and elephantiasis is common, though also chiefly restricted to the coast line.

The rainfall of the District is chiefly brought by the south-west monsoon. The heaviest fall occurs north of the Ghāts in Jeypore, and the lightest along the coast. An average of thirty years gives the rain on the coast as 38 inches; in the plains as 43; on the Ghāts as 51; and in Jeypore as 66. The highest yearly average (76 inches) is recorded from Jeypore, and the lowest (28) at Polavaram on the coast. Though liable to occasional periods of scarcity due to deficient rainfall, the District cannot be regarded as a famine area, and it has also been fortunate in largely escaping other natural calamities. A serious cyclone occurred in October, 1876. At Vizagapatam town 15 inches of rain fell in eighteen hours, and much damage was done to roads and buildings. The force of the wind may be gathered from the fact that it lifted the new iron dome of Mr. Narasinga Rao's observatory, which had been placed in position but not riveted down, and carried it 33 feet. Another cyclone occurred in December, 1878, when sudden floods in the rivers caused extensive damage to crops, houses, cattle, and other property, besides breaching almost every large tank in the District, destroying roads, interrupting postal communication, and causing some 300 deaths.

In early times the border between the kingdoms of VENGI and KALINGA moved in rather a puzzling manner up and down Vizaga-

patam District. The whole of the District was apparently included in the Kalinga kingdom as conquered by Asoka (260 B.C.); and large portions of it were certainly ruled over by the Andhra kings of Vengi who succeeded the Mauryans. After the Andhras fell before the Pallavas (*circa* A.D. 220), Vizagapatam seems to have passed under the early Ganga kings of Kalinga. But the Eastern Chālukyas of Vengi, who appear to have driven out the Pallavas early in the seventh century, extended their northern boundary far into Vizagapatam; and the District was divided rather obscurely between the Chālukyas and the Gangas for several centuries. Both kingdoms were conquered by the Cholas of Tanjore at the end of the tenth century, and Vizagapatam District probably remained under their rule for the next hundred years. On the decline of the Cholas in the twelfth century the later Gangas of Kalinga, who had been ruling a part at least of their ancient dominions as allies or feudatories of the Cholas, reoccupied the whole of Vizagapatam District, and, with brief intervals, remained in power till they fell before the Gajapatis of Orissa in the fifteenth century. The country was overrun by the Muhammadan armies of Gulbarga about 1480, and by Krishna Deva Rāya of Vijayanagar in 1515. Neither of these left permanent effects; but the Muhammadan troops of Golconda completely subverted the kingdom of Orissa about 1575, and henceforth the District belonged to the Muhammadans, and ultimately formed a part of the NORTHERN CIRCĀRS granted in 1753 to the French. The recall of Bussy from this territory to assist in the siege of Madras in 1758, Colonel Forde's expedition against and defeat of his successor, and the grant thereafter of the *Sarkārs* (Circārs) to the English by the Musalmāns are all referred to in the account of the history of GANJĀM.

History.

A factory was founded at Vizagapatam in the middle of the seventeenth century by the East India Company. In 1757 the place, which was in no state of defence, surrendered to the French general Bussy, who was in alliance with the most powerful chief in the District, the *zamīndār* of Vizianagram, Viziarāma Rāz. The latter next instigated Bussy to attack his inveterate enemy, the *zamīndār* of Bobbili; and the allies accordingly laid siege to the Bobbili fort, which was taken after an heroic but unavailing resistance still locally celebrated in the ballad 'Bobbili Ranga Rao.' Both these affairs are described in detail by Orme.

From this time forward the history of Vizagapatam is largely connected with the fortunes of the VIZIANAGRAM family. Between 1759 (the year of Colonel Forde's expedition from Bengal and defeat of the French at Masulipatam) and the end of the century they had managed to bring almost the whole of the District under their power. But by 1793 their affairs had fallen into considerable confusion; and the

Madras Government, whose possession of the Northern Circārs had been finally confirmed by the emperor Shāh Alam in 1765, ordered the *zamīndāri* to be sequestrated in consequence of the heavy arrears of *peshkash*, and directed the Rājā (another Viziarāma Rāz) to reside on a fixed allowance at Masulipatam. The Rājā set out accordingly from Vizianagram, but almost immediately halted at Padmanābham, where he was joined by 4,000 men. He then refused either to proceed or to come to any terms with the Government, and was accordingly attacked by the British troops on July 10, 1794. In the fight which followed he and almost all his followers, who rallied round him to the last, were killed. The estate was subsequently granted to his son, but was greatly reduced in size by the granting of permanent *sanads* (title-deeds) to the Rājā of Jeypore and some other *zamīndārs* for lands which they had formerly held from Vizianagram, and which their descendants still possess, and by the inclusion of the Anakāpalle *tahsīl* in the Government lands. After the cession to the British the country was at first governed by a Chief and Council at Vizagapatam. In 1794 the District was split into three Collectorates. These were amalgamated at the time of the permanent settlement in 1802 and form the present District.

The introduction of the permanent settlement of the land revenue in 1802, and the changes in the revenue and judicial systems which accompanied it, caused much disaffection and many disturbances. These finally rose to such a pitch that in 1832 Mr. George Russell, a Member of the Board of Revenue, was sent to restore order by force. As a result of his commission, Act XXIV of 1839 was passed and applied to all but the Government villages. The tracts in which it was put in force were thereby exempted from the operation of the ordinary law and placed exclusively under the Collector, in whom, in his capacity as Agent to the Governor, the entire administration of civil and criminal law was vested. They are in consequence (*see* the accounts of GANJĀM and GODĀVARI DISTRICTS) known as the Agency tract. In 1863, in view of the changed circumstances then existing, Vizianagram, Bobbili, and Pālkonda were excluded from the limits of the Agency, and a further contraction of these, up to the base of the hills, took place in 1865. The Agency tract, however, still includes 12,622 square miles, or 70 per cent. of the total area of the District.

Since 1839 disturbances have been rare. In 1845–8 and again in 1857–8 Golgonda gave trouble, and there were small outbreaks in Jeypore in 1849–50 and 1855–6. In 1879 the RAMPA rebellion in the neighbouring District of Godāvari spread into the Gūdem hill tracts and thence into Jeypore, but it was put down towards the end of 1880.

No important archaeological remains exist in the District. There

are many old forts and temples, now almost all in ruins, but few of them call for special mention. The most famous of the shrines, which ranks next to Purī as a place of pilgrimage in the Northern Circārs, is the Vaishnav temple at SIMHĀCHALAM, said to have been erected by Lāngūla Gajapati of Orissa. Other old temples are found at Padmanābham, Rāmatīrthālu, and UPMĀKA. In the heart of Vizagapatam town is situated the so-called Dutch cemetery, the oldest inscription in which is dated 1699.

Population.

Including the Agency tract, the District is the most populous in the Presidency. It contains 12 towns, all in the low country, and as many as 12,032 villages; but of the latter 9,436 are small hill villages containing less than 100 inhabitants each. During the thirty years ending 1901 the population has increased by 36 per cent., as compared with an increase of 22 per cent. for the Presidency as a whole. In 1871 the inhabitants numbered 2,159,199; in 1881, 2,485,141; in 1891, 2,802,992; and in 1901, 2,933,650. The District is divided into the *tāluks* and *tahsīls* of which statistics according to the Census of 1901 are given in the table on the next page. Only three of these, Sarvasiddhi, Golgonda, and Pālkonda, are Government *tāluks*, the rest being entirely *zamīndāri* land.

The chief towns are the municipalities of VIZAGAPATAM (population, 40,892), the District head-quarters, VIZIANAGRAM (37,270), ANAKĀPALLE (18,539), and BIMLIPATAM (10,212). By religion 99 per cent. of the people are either Hindus or Animists, and the District contains a smaller proportion of Muhammadans or Christians than any other except Ganjām. In the Agency tract nearly a third of the population are returned as Animists. The low country is thickly peopled; but in the hills the density of the population falls to 67 persons per square mile, and in Malkangiri, the most sparsely populated *tāluk* in the Presidency, to only 15.

Throughout the low country Telugu is the prevailing vernacular, but in the Agency tract an extraordinary confusion of tongues prevails. Oriyā, which is on the whole the most common language, is spoken chiefly in the western portion of the hills, but Khond and Savara are largely used in the north and Telugu in the south, while Hindī, Gadaba, and Poroja occur here and there.

In the low country the great majority of the people are Telugus. The most numerous communities are the three connected castes of Kāpus (513,000), Velamas (269,000), and Telagas (109,000), who are usually cultivators and traders. Next in number come the Mālas (149,000) and Gollas (146,000), who are respectively field-labourers and shepherds. Among castes who are seldom found elsewhere the Gavaras (cultivators) and Yātas (toddy-drawers) may be mentioned.

In the Agency tract by far the largest tribe is the Khonds (*see*

MĀLIAHS), who number 138,000; while the Porojas (92,000), Jātāpus (53,000), and Kondadoras (42,000), all three of whom are closely allied to the Khonds, are also numerous. Savaras number 50,000. Several considerable Oriyā castes which are seldom met with elsewhere also occur in these hills. Instances are the Bhūmias and Bottadas, both cultivating communities, the Dombo weavers, the Kottiyas, Mālis, Paidis, and Ronas.

Tāluk or *Tahsīl*.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Koraput Agency	671	...	611	73,818	110	− 0·9	638
Nowrangapur Agency	2,172	...	1,031	104,145	48	− 10·5	582
Jeypore Agency	1,016	...	1,213	133,831	132	− 4·8	1,977
Pottangi Agency	625	...	920	73,013	117	− 6·0	331
Malkangiri Agency	2,396	...	566	35,856	15	+ 26·8	324
Padwa Agency	1,383	...	1,418	64,415	47	+ 9·2	138
Pārvatīpuram, including Agency	799	1	498	160,523	201	+ 2·3	4,010
Bissamcuttack Agency	*1,850	...	837	59,445	*94	− 4·3	285
Rāyagada Agency	710	...	758	86,610	122	− 5·1	563
Gunupur Agency	...	...	1,149	113,682	...	− 0·1	2,452
Bobbili	268	1	167	133,577	498	+ 3·7	4,668
Sālūr, including Agency	380	1	199	97,843	257	+ 10·1	2,832
Vizianagram	294	1	191	185,670	632	+ 11·4	9,132
Pālkonda, including Agency	502	2	440	226,621	451	+ 6·3	7,056
Chīpurupalle	549	...	268	170,532	311	+ 8·9	4,502
Gajapatinagaram	333	...	228	134,553	404	+ 8·5	3,040
Bimlipatam	207	1	117	126,354	610	+ 10·0	3,254
Vizagapatam	173	1	76	110,652	640	+ 13·2	8,399
Srungavarappukota, including Agency	438	1	266	142,017	324	+ 6·5	3,597
Golgonda, including Agency	1,263	1	517	157,436	125	+ 6·5	2,624
Vīravilli, including Agency	555	...	267	216,818	391	+ 6·5	5,626
Anakāpalle	297	1	143	165,478	557	+ 8·8	4,347
Sarvasiddhi	341	1	152	160,761	471	+ 3·7	3,830
District total	17,222	12	12,032	2,933,650	170	+ 4·7	74,207

* Includes Gunupur Agency.

The occupations of the people in the low country present no peculiar features; the great majority are agriculturists. In the Agency tract cultivation is more universally the occupation of the people than anywhere else in the Presidency except the similar tract in Godāvari.

There are 7,346 Christians in the District, of whom 5,884 are natives. The flourishing Roman Catholic mission at Vizagapatam town was started in 1845 by the missionaries of St. Francis of Sales. The Protestant societies represented are the London Mission, two

Canadian Baptist Societies, and the Schleswig-Holstein Evangelical Lutheran Mission. By far the oldest in the District is the first of these, which has been working since 1805. In 1901 it had some 450 converts at Vizagapatam and other stations. The Canadian Baptists work chiefly in the plains and the Lutheran missionaries in the Agency tract.

Agriculture.

The soils principally prevailing in the District are of the highly ferruginous red varieties, chiefly sands and loams. These predominate near the hills; but farther out in the plains the soil becomes of finer grain, and at last the black soils of the *regar* series are met with, the best and most extensive of them being a fertile black loam. The more valuable food-crops are grown on these black soils, 'dry' grains and pulses on the red loams, and pulses on the sandy land. The agricultural year begins as a rule in June and July with the breaking of the south-west monsoon. But a peculiarity of this District is the multiplicity of its crops and harvests, cultivation and harvesting of some kind going on almost all the year round; it is only for about a couple of months, from March to May, that agricultural operations are altogether suspended.

As the greater part of the District is *zamīndāri* land, for which no accurate statistics exist, particulars of the cultivation and so forth are not available. In the three Government *tāluks* of Sarvasiddhi, Golgonda, and Pālkonda information is on record for 1,012 square miles (out of a total District area of 17,222 square miles); and of this, 345 square miles are covered with forest, 200 are for other reasons not available for cultivation, and only 433 square miles are cropped. Rice occupies 32 per cent. of this last, while *cambu* (*Pennisetum typhoideum*) and *rāgi* (*Eleusine coracana*), the staple food-grains of the District, are raised on 24 per cent. About 115 square miles (21 per cent.) are cultivated with pulses. Of industrial crops, gingelly (*Sesamum indicum*) occupies the first place (13 per cent.). Sugar-cane, cotton, and tobacco are also grown to a large extent on the more fertile soils. The principal food-grains of the masses—the 'dry' (unirrigated) crops, *cambu* and *rāgi* (with some *cholam*)—are grown with the help of the south-west rains; consequently the failure of this monsoon (as in 1891–2 and 1896–7) causes great distress. The cultivation of indigo, formerly one of the important crops of the District, is rapidly decreasing owing to the competition of the German synthetic product.

Owing to the prevalence of the *zamīndāri* tenure in the District and the general low grade of the average ryot's intelligence, practically no advance has been made in agricultural practice over the methods stereotyped by immemorial usage. As a rule the fundamental principles of the rotation of crops are observed, staple cereals such as *cambu* or *rāgi* being usually alternated with pulses such as black, green,

or horse gram. The benefits accruing from fallowing and manuring are also generally appreciated; but hostile circumstances—such as the small capital at command, the great fluctuations of the seasons, and the general absence of firewood, which necessitates the use of cattle dung as fuel—operate to induce the average ryot to take as much as possible out of his land and put as little as possible back. He lives on his 'dry' grain crops, and looks to his gingelly, pulses, or rice to give him the wherewithal to meet Government's or his *zamīndār's* dues. As was to be expected in a District containing so much *zamīndāri* land, the ryots have taken little advantage of the Land Improvement Loans Act. During the sixteen years ending 1905 only about Rs. 33,000 has been advanced under it.

There are no special breeds of stock. As a rule, owing to the absence of any knowledge of the principles of breeding, the domestic animals are of inferior quality. The cattle are small but fairly strong. Goats and sheep are of the usual kinds, and are kept mainly for the manure they afford.

As the majority of the rivers in the low country are short and irregular in flow, they are not of much importance for irrigation. Before the commencement of the rainy season, mud and brushwood dams are built across them at suitable points, which divert a certain amount of the monsoon floods into side channels communicating either directly with the fields to be irrigated or with storage tanks. Many of these temporary dams are gradually being replaced by permanent masonry constructions. Of the three Government *tāluks*, Pālkonda is partly watered by the Nāgāvali or Lāngulya, and Sarvasiddhi and Golgonda by the Sāradā and Varāha rivers, and by two small but picturesque natural lakes called the Komaravolu and Kondakirla Avas. The Nāgāvali is the only perennial river on the eastern side of the Ghāts, and a large scheme for the more effective utilization of its water in the Pālkonda *tāluk* has lately been sanctioned and begun. The chief irrigation sources of the District are its tanks. There are about 1,500 of these in the three Government *tāluks*; and of the 180 square miles irrigated in that tract, which represents over 49 per cent. of the area under *ryotwāri* and 'minor *inām*' cropped in 1903-4, 102 square miles were watered from this source. The area irrigated from wells is negligible.

Forests, &c.

The only heavy forest is on the Jeypore plateau, south and west of the valleys of the Indrāvati and Sileru rivers. Throughout nearly the whole of the rest of the District the forests have been, to a greater or less extent, destroyed by the inhabitants, all gradations being found between the still well-covered outer flanks of the hills in Golgonda and the bare red schistose heights of Rāyagada and Pārvatīpuram. In the Agency tract, the system of

shifting cultivation, or *podu*, under which patches of forest are felled and burnt, cultivated after a fashion for a couple of years and then abandoned in favour of fresh patches, is mostly responsible for this state of things, while in the plains the demand for firewood and the enormous flocks of goats kept in many villages have caused the denudation. The Jeypore hills contain much valuable timber, chiefly teak and *sāl* (*Shorea robusta*); but elsewhere there are two main types of forest: namely, the high growth in those parts where, owing to the rocky or otherwise uncultivable character of the soil or its remoteness, shifting cultivation has not been practised; and the coppice forest which has followed the shifting cultivation or has sprung up after reservation on areas previously denuded for firewood and by goats. Owing to its proximity to the markets, the latter class of forests is perhaps the more valuable of the two, though it contains no large timber.

Forest conservancy in the District is yet in its infancy, having been practically non-existent before 1890. Since then progress has been made, and about 300 square miles of forest in the Government *tāluks* have been 'reserved.' The greater part of this (260 square miles) is situated in Golgonda. Elsewhere, the fact that the land is *zamīndāri* prevents any direct action by Government. But in recent years forest conservancy has been introduced into the Jeypore and Vizianagram estates; and, as these make up the greater part of the District, there is hope that much of the remnants of forest still left will be preserved from further indiscriminate destruction.

Little is known regarding the mineral wealth of the District, as it has never been systematically prospected. The only mining of any extent now in progress is the extraction of manganese ore conducted by the Vizianagram Mining Company at various places in the Gajapatinagaram, Vizianagram, and Chīpurupalle *tahsīls*. In 1903, 63,000 tons of ore, valued at $4\frac{1}{3}$ lakhs, were mined by this company, and a daily average of 2,700 hands were employed. Most of it is shipped from Vizagapatam to the United Kingdom. Workable iron ores exist in the Vīravilli *tahsīl*, but these are smelted only to a very small extent for local use.

Trade and communications.

There are no arts and manufactures of any importance. In Vizagapatam town fancy European articles of ivory, tortoise-shell, and horn are made. The ornamentation usually consists of ivory fretwork or of ivory etched in black with floral and other designs, many of which are of European origin. Weaving is a common industry in almost every village, but in only a few places is the cloth made of such a nature as to cause an outside demand. The distillery at Vizagapatam, opened in 1893, manufactured in 1903 from sugar-cane 71,375 proof gallons of country

spirits and employed an average of 43 hands daily. It possesses two steam continuous stills with wash-heaters and condensers, each having a capacity of 40 proof gallons per hour. The jute factory at Chittivalsa, the only one in the Madras Presidency, was established by a European firm in 1867. It manufactures gunny-bags and cloth, possesses 100 looms and 2,084 spindles, and is driven by steam. It employed daily 835 operatives during 1903-4.

The average value of the sea-borne trade of the District for the five years ending 1903-4 was: imports, 12 lakhs; exports, 49 lakhs; total, 61 lakhs. The whole of this is conducted through the two ports of BIMLIPATAM and VIZAGAPATAM. The principal imports are cotton piece-goods and twist and yarn, hardware, iron, and timber. The exports are chiefly manganese ore, hides and skins, grain, and raw sugar. The inland traffic is considerable between the plains and the Agency tract, pack-bullocks conveying grain and jungle produce (such as myrabolams and other tanning materials, honey, wax, &c.) down to various places at the foot of the hills, and returning with salt and other commodities not produced in the hill country. There is also a large cart-traffic in grain between the rice-growing areas of Jeypore and the plains. The chief centres of internal trade are Pārvatīpuram and Vizianagram, but nearly every large village has its weekly market. In the towns these are managed by the local boards, which in 1903-4 realized Rs. 8,600 from fees.

The low country is traversed from north-east to south-west along the coast by the state-owned East Coast Railway (standard gauge), which was opened between Madras and Vizagapatam in 1893 and up to the northern frontier of the District in the following year. Its total length in the District is 137 miles. The southern section (up to Waltair) is worked by the Madras Railway Company, and the northern section by the Bengal-Nāgpur Railway Company. A line from Raipur in the Central Provinces to join this latter section at Vizianagram, passing through Pārvatīpuram, has been sanctioned. It will be on the standard gauge and 359 miles in length, of which 133 miles will be within this District; and it will provide an outlet to the sea for the produce of the Raipur country. The low country is fairly well supplied with communications, 370 miles of metalled and 617 miles of unmetalled roads being maintained by the local boards. There are avenues of trees along 537 miles. In the hill country roads are naturally rarer, but rapid advance is now being made. The main channels of communication up to and through the hills are the road from Pārvatīpuram to Bengal, and that which goes from Vizianagram to Jeypore and thence on to the same Province. The *ghāt* on this latter from the foot of the hills to Koraput, known as the Pottangi *ghāt*, crosses the more formidable ravines and streams by several iron

bridges. Sixty-four miles of this road are kept in repair by the Public Works department. From Jeypore and Koraput three branches from it run to the Bastar State in the Central Provinces, through the Malkangiri *tahsīl*, and into the Pottangi and Padwa *tahsīls*.

Famine.

Famine visited Vizagapatam in 1791–2 and 1823–4, but few particulars have been preserved. The scarcity of 1891–2 affected it somewhat, but in recent years state relief has been found necessary only in 1896–7. The distress of that year was accentuated by the prevalence of scarcity in the neighbouring Districts, the consequent panic driving up prices far above the rates which would otherwise have prevailed. The highest number on relief was 62,500 in July, 1897. Of these, 23,000 were on works, 38,000 on gratuitous relief, and the rest were weavers. The total direct expenditure by Government amounted to 4½ lakhs, and the loss of revenue to a further 1½ lakhs. Vizagapatam is protected, except in the case of a very widespread scarcity, from an absolute dearth of food, as it has communication by railway with the fertile Districts of Kistna and Godāvari and also with Lower Bengal, by steamer with Rangoon, and by good roads with the rice-growing tracts of Jeypore and the Central Provinces.

Administration.

For administrative purposes the District is grouped into five subdivisions under the control of divisional officers, four of whom are usually Covenanted Civilians and the fifth a Deputy-Collector. The twenty-three *tāluks* and *tahsīls* are distributed among these subdivisions as follows: The Vizagapatam subdivision comprises the Vizagapatam and Srungavarappukota *tahsīls*; Vizianagram comprises Vizianagram, Chīpurupalle, Gajapatinagaram, Pālkonda, and Bimlipatam; Narasapatnam comprises Golgonda, Sarvasiddhi, Vīravilli, and Anakāpalle; Pārvatīpuram comprises Pārvatīpuram, Bobbili, Sālūr, Gunupur, Rāyagada, and Bissamcuttack; and Koraput comprises Koraput, Pottangi, Jeypore, Nowrangapur, Malkangiri, and Padwa *tahsīls*. The greater part of the District, as already mentioned, is held on *zamīndāri* tenure, and the only *ryotwāri tāluks* are Golgonda, Sarvasiddhi, and Pālkonda. These three are in charge of *tahsildārs* and, except Golgonda, are provided with stationary Sub-magistrates; the remaining twenty are under deputy-*tahsīldārs* in independent charge, who also have magisterial powers.

The Agency tract includes the whole of Gunupur, Rāyagada, Bissamcuttack, Jeypore, Koraput, Pottangi, Padwa, Malkangiri, and Nowrangapur *tahsīls*, and parts of Pālkonda, Pārvatīpuram, Sālūr, Srungavarappukota, Vīravilli, and Golgonda.

For the administration of civil justice in the ordinary tracts there are six District Munsifs, subject to the appellate authority of the District Judge. In the Agency tract nine *tahsīldārs* and deputy-*tahsīldārs*

are invested with the civil powers of District Munsifs, subject to the appellate authority of their respective divisional officers, who exercise the powers of Subordinate Judges. There is, however, but little civil litigation in so backward an area, only one in 1,600 of the population bringing any kind of suit in most years, though the corresponding figure for the Presidency as a whole is one in 115.

Criminal justice is dispensed by two Sessions courts, one for the ordinary tracts, presided over by the District and Sessions Judge, and one for the Agency tract. In the latter the Collector, or Agent, is the Sessions Judge, and some of the work is done by the senior Civilian divisional officer, who is an Additional Sessions Judge. In the ordinary tracts serious offences against person and property are not common, their frequency, as elsewhere, usually varying with the state of the season. In the Agency tract, however, grave crimes are of frequent occurrence, owing to the wild character of the country and the people. Murder, dacoity, and cattle theft are common; and altogether this is one of the most criminal tracts in the Presidency.

The revenue system in force before the Circārs (*Sarkārs*) were ceded to the Company (1765) consisted simply in the Faujdār or Nawāb farming or leasing out the greater part of the country to revenue agents, who received a percentage of what they collected. In accordance with Oriental custom, these revenue posts tended to become hereditary; and before the cession their holders were usually called *zamīndārs*, and the local area of the jurisdiction of each was known as his *zamīndāri*. At the same time the Nawābs appropriated for their own use and for the support of the Musalmān garrisons certain lands called *haveli*, usually situated near the large towns, which were always under their own immediate management. After the cession this distinction between *zamīndāri* and *haveli* or Government land was retained for some time, but it was abolished on the introduction of the permanent settlement in 1802. The District then contained sixteen ancient *zamīndāris*. These were permanently settled for an annual *peshkash* of 8 lakhs. The *haveli* lands were parcelled out into convenient areas and sold by auction, and thus also brought under the *zamīndāri* system. In this way twenty-three new estates were formed, with a *peshkash* of nearly 4 lakhs. These and the sixteen ancient *zamīndāris* formed the new Collectorate of Vizagapatam.

The District as thus created was entirely *zamīndāri*; but between 1833 and 1844 twelve estates were confiscated for rebellion or resumed on other accounts, and constituted into the three *ryotwāri tāluks* of Golgonda, Sarvasiddhi, and Pālkonda. The last named, however, was leased to Messrs. Arbuthnot & Co. in 1846 and not resumed by Government till 1892.

The ancient system of land assessment was by division of the

produce, but in the Government estates as well as in many *zamīndāris* this was often effected through the medium of a renter. The *zamīndārs* imposed a fixed assessment on 'dry' (unirrigated) land which amounted to half the gross produce; but on 'wet' (irrigated) land the imposition of additional taxes reduced the share of the ryot in theory to one-third, but in practice to only one-fifth, of the produce.

The existing survey of the three Government *tāluks* was carried out in 1884–8 and their settlement in 1888–9, the new rates of assessment being introduced in 1899–1900. The survey showed that the area under cultivation had been understated in the old accounts by about 20 per cent., and the settlement resulted in an increase of 15 per cent. in the land revenue. The average assessment on 'dry' land is now Rs. 1-1 (maximum Rs. 3, minimum 6 annas) and on 'wet' land Rs. 5-9-5 (maximum Rs. 8, minimum Rs. 2) per acre.

The revenue from land and the total revenue in recent years are given below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	18,77	16,99	19,14	18,67
Total revenue . .	20,75	24,66	31,40	31,49

The greater part of the Agency tract has recently been brought under the Local Boards Act. In the ordinary tracts four municipalities (VIZAGAPATAM, VIZIANAGRAM, BIMLIPATAM, and ANAKĀPALLE) have been constituted. Outside these towns, local affairs are managed by the two District boards of Vizagapatam and Koraput, and by the four *tāluk* boards of Vizagapatam, Vizianagram, Narasapatnam, and Pārvatīpuram, the local areas of the jurisdiction of the latter being conterminous with the revenue subdivisions of the same names. The total expenditure of these boards in 1903–4 was more than 4 lakhs, nearly 2½ lakhs being laid out on roads and buildings, while education, hospitals, and sanitation accounted for another lakh. The chief source of income is the land cess. Subordinate to the *tāluk* boards are fifteen Union *panchāyats*, which manage the affairs of the smaller towns, levying a small tax on houses and spending the proceeds on sanitary needs.

For police purposes the District is divided into two areas, Vizagapatam and Jeypore. The latter comprises the Koraput subdivision and the former the rest of the District. These two together contain 107 police stations; and the force within them consists of 24 inspectors, one European constable, 169 head constables, and 1,275 constables. Reserve police, consisting of picked men better armed than the rest, are stationed in four places, and are intended mainly to be available

in case of disturbances in the Agency tract. The rural police in the Government *tāluks* number 250.

The District jail at Vizagapatam town has accommodation for 357 prisoners, and 22 sub-jails at the various *tāluk* and *tahsīl* head-quarters (except Vizagapatam) are capable of holding altogether 427 prisoners.

A large portion of the population consists of wild hill tribes; and hence it is not surprising to find that, according to the Census of 1901, the District takes the last place in the Presidency in point of education, only 3·2 per cent. of the population (6·1 males and 0·4 females) being able to read and write. Considerable progress, however, has been made during the last two decades. The total number of pupils under instruction in the District in 1880–1 was 14,973; in 1890–1, 24,142; in 1900–1, 31,980; and in 1903–4, 36,025. The enormous majority of these were in primary classes.

At the close of 1903–4 there were in the District 1,167 educational institutions of all sorts, of which all but 104 were public institutions. These included 1,020 primary, 31 secondary, and 10 training and special schools, and also the 2 Arts colleges at Vizagapatam and Vizianagram. The girls in them numbered altogether 5,019. Of the public schools, 69 were directly managed by the Educational department, 119 by local boards, and 17 by municipal councils. Those aided by grants from Government numbered 633, while 225 were unaided. There were in addition 30 special primary schools for Panchamas (depressed and backward castes), with 1,027 pupils. Only about 12 per cent. of the male population of school-going age were in the primary stage of instruction, and 2 per cent. of the female population of the same age. Among the Musalmāns the corresponding percentages were high (61 and 25), but the followers of this faith in the District are few in number. The total expenditure on education in 1903–4 was Rs. 2,77,000, of which Rs. 88,000 was derived from fees. Of the total, Rs. 1,42,000 was devoted to primary instruction.

The District contains 21 hospitals and 6 dispensaries, as well as 2 hospitals for 'caste' women, 4 police hospitals, and a lunatic asylum at Vizagapatam. The hospitals have accommodation for 299 in-patients. In 1903 the number of cases treated was 363,625, including 2,838 in-patients, and 7,132 operations were performed. The expenditure was Rs. 62,000, mostly met from Local and municipal funds.

The progress of vaccination in recent years has been slow, the number of successful vaccinations in 1900–1 being only 21 per 1,000 of the population. In the succeeding years the figure rose to 27, but it is still below the average for the Presidency. Vaccination is compulsory only in the four municipal towns.

[Further particulars of the District will be found in the *District Manual*, by D. F. Carmichael (1869).]

Vizagapatam Subdivision.—Subdivision of Vizagapatam District, Madras, consisting of the *zamīndāri tahsīls* of VIZAGAPATAM and SRUNGAVARAPPUKOTA (including Agency area).

Vizagapatam Tahsīl. — Coast *tahsīl* in Vizagapatam District, Madras, lying between 17° 38′ and 17° 51′ N. and 83° 11′ and 83° 25′ E., with an area of 173 square miles. The population in 1901 was 110,652, compared with 97,776 in 1891. The *tahsīl* contains one town, VIZAGAPATAM (population, 40,892), the head-quarters of the District and the *tahsīl*; and 76 villages. The demand for land revenue and cesses in 1903–4 was Rs. 16,900. A great part of the *tahsīl* is covered by small ranges of bare rocky hills running up to 1,800 feet. On one of these ranges, to the north of Vizagapatam town, called Kailāsa, an attempt was once made to establish a sanitarium.

Vizagapatam Town.—Head-quarters of the District of the same name, Madras, situated in 17° 42′ N. and 83° 18′ E., 484 miles by railway from Madras and 547 from Calcutta. It is a flourishing seaport, lying in the angle of the bay formed by the projection seawards of the prominent headland known as the DOLPHIN'S NOSE. A little farther north along the coast, pleasantly situated on a ridge of low hills facing the sea, is the suburb of Waltair, one of the favourite stations in the Presidency, where most of the District officials reside. To the west of the town lies a large backwater through which a small stream meanders to the sea, and on the north and south this is bounded by two parallel ridges of low hills about 1,800 feet in height, and 4 miles apart. The bay in the angle between the coast and the Dolphin's Nose forms the present anchorage; but if the proposed scheme for dredging this backwater and river and forming an inner harbour and docks within them is carried out, Vizagapatam will have the finest harbour along the Bay of Bengal, safe in all weathers, and enabling ocean-going ships to load and unload at the dockside.

The story of Vizagapatam dates from the establishment in the seventeenth century by the East India Company of one of the earliest factories on the east coast. But historically the town can boast of little interest, the only events of any importance that have occurred being the two occupations of the factory, in 1689 by Aurangzeb's forces, and in 1757 by the French under Bussy.

The population in 1901 was 40,892, occupying 7,741 houses. In 1891 it was only 34,487, and the marked increase is largely due to the opening of the East Coast Railway. The population includes 36,346 Hindus, 2,761 Muhammadans, and 1,749 Christians. The majority of them reside in Vizagapatam proper; but there are large

European communities in the suburbs of Waltair and Waltair Station, the former composed chiefly of Government officials and the latter of railway employés.

The town was constituted a municipality in 1866. The municipal income and expenditure during the ten years ending 1902–3 averaged Rs. 86,000 and Rs. 1,04,000 respectively. In 1903–4 they were Rs. 93,600 and Rs. 89,500, the income consisting chiefly of the proceeds of taxes on houses and land, a contribution from Government, and the water rate. The water-works, which cost about $4\frac{1}{2}$ lakhs, have been recently completed. A sewage farm has also been laid out in the last few years.

Besides being the head-quarters of the usual District staff, Vizagapatam, with Waltair, is the residence of the controlling officers in the Northern Circārs of several departments, among them a Deputy-Inspector-General of Police, Conservator of Forests, Superintending Engineer, Deputy-Commissioner of Salt, Abkāri, and Customs, Inspector of Schools, Inspectress of Girls' Schools, and a Superintendent of Telegraphs, as well as of the staffs of the Bengal-Nāgpur and Madras Railway Companies which respectively work the sections of the railway to the north and south of the town. The District jail has accommodation for 357 prisoners, who are mainly employed in weaving carpets, cloths, and blankets, and making ropes and mats of coco-nut fibre. In 1904 the manufacturing department of the jail yielded a profit of Rs. 3,100, the value of the out-turn being nearly Rs. 10,000. A company and some cadets of the East Coast Rifle Volunteers, 155 strong at the end of 1904, are stationed in the place. Ecclesiastically, the town is divided into two parishes, St. John's, Vizagapatam, and St. Paul's, Waltair, in charge of the Government Chaplain. It also contains the head-quarters of the mission of St. Francis of Sales in Savoy (the head of which is the Roman Catholic Bishop of Vizagapatam), and of the London Missionary Society.

With the exception of the making of ornamental articles of ivory, tortoise-shell, and horn for Europeans, Vizagapatam has no indigenous arts of any interest. Nor, except for a distillery, has it any manufactures of note. It is chiefly important as a shipping centre, and is a port of call for all vessels engaged in the coasting trade, the annual value of the imports during the five years ending 1903–4 averaging 5 lakhs and of the exports 17 lakhs. The chief imports are cotton twist and yarn and piece-goods, iron, and timber; the principal exports are manganese ore, raw sugar, hides and skins, myrabolams, and indigo. A lighthouse has recently been erected opposite the anchorage.

The educational institutions of the town include, besides the usual lower-grade schools, a second-grade college (the Mrs. A. V. Narasinga Rao College) with 503 scholars; 3 high schools—2 (for boys and girls)

maintained by the Roman Catholic community, and another by the London Missionary Society—and a medical school for the instruction of students of the Hospital Assistant class.

A good civil hospital was founded in 1864 and endowed by a former Mahārājā of Vizianagram. It contains separate wards for the different castes, each ward being erected at the expense of the caste concerned, and has accommodation for 77 in-patients. There is also a women and children's hospital, with accommodation for 14 in-patients, under a lady apothecary, and one of the three lunatic asylums in the Presidency, which can hold 96 patients.

Viziadrug. — Port in the Devgarh *tāluka* of Ratnāgiri District, Bombay. *See* VIJAYADURG.

Vizianagram Subdivision.—Subdivision of Vizagapatam District, Madras, consisting of the *zamīndāri tahsīls* of VIZIANAGRAM, CHĪPURUPALLE, GAJAPATINAGARAM, and BIMLIPATAM, and the *tāluk* of PĀLKONDA (including Agency area).

Vizianagram Estate.—One of the most important estates in the Madras Presidency, occupying the greater part of the lowland area of the District of Vizagapatam. It comprises the whole of the Vizianagram, Bimlipatam, and Srungavarappukota *tahsīls*, and portions of Pālkonda, Gajapatinagaram, Chīpurupalle, Vizagapatam, Anakāpalle, Vīravilli, Golgonda, and Sarvasiddhi, and thus includes the most thickly populated and fertile parts of the District. The capital is at the town of the same name. It yields an income of about 20 lakhs per annum, and paid in 1903–4 *peshkash* and cesses amounting to Rs. 5,79,000.

The family claims descent from Mādhavavarma, who led a Rājput colony into the Kistna Valley in A.D. 591, and whose descendants held important posts at the court of Golconda. In 1652 one of these, Pūsapāti Mādhavavarma, entered Vizagapatam, where he and his successors down to the celebrated Viziarāma Rāz, the friend of Bussy, gradually added one tract of country to another, till they became the most powerful family in the Northern Circars. Pedda Viziarāma Rāz, so called to distinguish him from his ill-fated grandson, who fell at Padmanābham in 1794, succeeded his father about 1710. In 1712 he removed his capital from Potnūr to Vizianagram, which he called after his own name. For several years he occupied himself in building a fort there, and in gradually extending his dominions. In 1754 he formed an alliance with Jafar Alī Khān, the Faujdār of Chicacole, but deserted him for the more profitable friendship of the French under Bussy, by whose assistance he was enabled in 1757 to compass the death of his hereditary enemy, the *zamīndār* of Bobbili, and to seize his capital. His triumph was, however, short-lived; for three nights after the storming of that fort, Viziarāma Rāz was assassinated in his tent by four followers of his old foe.

His successor Ananda Rāz, smarting under some slight, reversed the policy of his father, and marching on Vizagapatam, at that time in the hands of a French garrison, captured it and made it over to the English (1758). On the arrival of Colonel Forde's column from Bengal to attack the French, Ananda Rāz accompanied it on its victorious march on Rājahmundry and Masulipatam. On the return journey he died, and was succeeded by a minor adopted son, Viziarāma Rāz, who for many years was entirely in the hands of his half-brother, Sītā Rām Rāz, a clever, unscrupulous, and grasping character. In 1761 Sītā Rām attacked Parlākimedi, defeating the forces of its chief, with their Marāthā allies, near Chicacole and thereby acquiring a considerable accession of territory. The war was carried southward into Rājahmundry with similar results. By this time, besides the large estate of Vizianagram governed directly by the Pūsapātis, Jeypore, Pālkonda, and fifteen other large *zamīndāris* acknowledged the Rājā as suzerain.

Sītā Rām proved himself a successful ruler, paying his *peshkash* of 3 lakhs to the Company with punctuality, and making capital of his loyalty so as to procure, among other advantages, the assistance of British troops for the suppression of his turbulent hill feudatories. By these means the Pūsapātis attained yet further power and prestige. The absolute authority which Sītā Rām acquired was irksome to his brother, the Rājā, and was found intolerable by many chiefs, who petitioned persistently for his removal in favour of another Dīwān, Jagannāth Rāz. But Sītā Rām was possessed of too much influence, both in the Circārs and at Madras itself, to be easily ousted. The Court of Directors in England ordered his dismissal in vain; and it was not till after several accusations of corruption had been brought, and the resultant quarrels had necessitated the removal of the Governor of Madras (Sir T. Rumbold) and two members of Council, that Sītā Rām's star began to set.

In 1784 the Circuit Committee, in reporting on the District, brought to notice that Vizianagram with his feudatories maintained a standing army of 12,000 men, which was reasonably held to be a source of danger to the Company. The only immediate result of this report was the temporary retirement of Sītā Rām. In 1790 he returned for a while; but in 1793 he was summoned to live at Madras, and from that time forth disappears from local history. Viziarāma Rāz proved incapable of the task of governing. He fell into heavy arrears with his *peshkash*, and the Government ordered his estate to be sequestrated, and directed him to reside at Masulipatam on a fixed allowance. He set out from his capital accordingly, but halted almost immediately, and being joined by a large force of friends and followers refused either to proceed or to treat with the authorities.

On July 10, 1794, Colonel Prendergast accordingly attacked him at Padmanābham, and completely routed his army after three-quarters of an hour's fighting. The Rājā himself and many of his principal chiefs were among the slain.

The death of Viziarāma Rāz marks a turning-point in the fortunes of the family. Up to that time, except for occasional vicissitudes, the importance of the Pūsapātis had steadily increased during the century, until their own dominions and those of their feudatories covered an area conterminous with the present District of Vizagapatam. Their progress was now checked.

After the battle of Padmanābham, Nārāyana Bābu, the minor son of the deceased Viziarāma Rāz, fled to the protection of the hill *zamīndārs*, who were disposed to raise the standard of revolt in his favour, but were prevented from doing so by timely measures. After protracted negotiations, the Rājā surrendered and a fresh title-deed was given him. Under its terms the hill chiefs were removed from his control and brought into direct relations with the Government, and some parts of Vizianagram were absorbed into the *haveli*, or Government, lands. A *peshkash* of 6 lakhs was imposed on the reduced Vizianagram *zamīndāri*. In 1802 the permanent settlement was made. The *zamīndāri* then contained 24 *parganas* and 1,157 villages, and the *peshkash* was fixed at 5 lakhs. Nārāyana Bābu died at Benares in 1845, heavily in debt, having left his estates in the charge of Government for about half the period of his rule. His successor, Viziarāma Gajapati Rāz, continued this arrangement for seven years, but in 1852 he took over the management himself. The estate was then in a most flourishing condition, and had a credit balance of more than 2 lakhs. Viziarāma Rāz and his son and successor, Ananda Rāz, proved themselves worthy of their position. Both were members of the Viceroy's Council and received high honours from the Crown, Viziarāma Rāz being made a Mahārājā and a K.C.S.I. and Ananda Rāz a Mahārājā and a G.C.I.E. The latter died in 1897, and the heir (Rājā Pūsapāti Viziarāma Gajapati Rāz) being a minor, the estate was placed in charge of a collector and guardian appointed by Government under the Guardians and Wards Act. The minority expired in August, 1904.

The estate is now being surveyed and a settlement will shortly be made. A Forest staff has recently been organized, to protect the still existing growth and to reafforest the many bare ranges of hills in the estate.

Vizianagram Tahsīl.—One of the plains *tahsīls* of Vizagapatam District, Madras, lying between 17° 59′ and 18° 16′ N. and 83° 17′ and 83° 36′ E., and consisting for the most part of the flat country surrounding its head-quarters, VIZIANAGRAM TOWN (population, 37,270). It is traversed by the East Coast Railway. The area is 294 square miles;

population (1901), 185,670, compared with 166,658 in 1891; number of villages, 191. The demand for land revenue and cesses in 1903-4 amounted to Rs. 5,95,000.

Vizianagram Town.—Head-quarters of the subdivision and *tahsīl* of the same name in Vizagapatam District, Madras, situated in 18° 7′ N. and 83° 25′ E., 522 miles by rail from Madras and 507 miles from Calcutta, about 16 miles from the sea. It is a rapidly growing place, and the residence of the Rājā of Vizianagram, whose ancestor, Viziarāma Rāz, founded it and gave it his name; the second largest town in the District, and a centre of trade; a cantonment and a municipality. The population in 1901 numbered 37,270, of whom 34,542 were Hindus, 2,189 Muhammadans, and 518 Christians. The municipality was established in 1866. During the ten years ending 1902-3 the receipts and expenditure both averaged Rs. 33,000. In 1903-4 the receipts were Rs. 39,000 and the expenditure Rs. 41,000. Most of the receipts are derived from the taxes on houses and lands and from tolls. A water-supply scheme, estimated to cost nearly 3 lakhs, has been postponed for the present on financial grounds. The town itself is well built and contains a fine market and town-hall, besides a large fort, in which the Rājā's palace is situated. North of this lies a considerable tank, on the opposite side of which are the cantonment and the railway station. The troops in the former usually consist of a wing of a regiment of native infantry. The climate is very healthy, though sultry in the hot season.

Vizianagram is a centre of trade between the port of Bimlipatam and the hill country of the District, and will be the southern terminus of the proposed railway from Raipur in the Central Provinces. It contains a first-grade Arts college, which is entirely maintained by the Rājā, with an attendance of 446 students, 43 of whom are reading for the B.A. degree.

Vora.—Petty State in REWĀ KĀNTHA, Bombay.

Vriddhāchalam Tāluk.—One of the two southern *tāluks* forming the Chidambaram subdivision of South Arcot District, Madras. It lies between 11° 23′ and 11° 41′ N. and 78° 50′ and 79° 34′ E., with an area of 576 square miles. The population rose to 242,140 in 1901 from 219,675 in 1891. It contains 295 villages and one town, VRIDDHĀCHALAM (population, 9,433), the head-quarters, a place of some historical importance. The demand for land revenue and cesses in 1903-4 amounted to Rs. 5,83,000. It is essentially an unirrigated region, the 'wet' cultivation being only one-eleventh of the 'dry' area. The rivers running through it are the Vellār and its tributary the Manimuktānadī; the waters of the latter at Vriddhāchalam are considered especially sacred. The *tāluk* contains no hills and is not picturesque. Large areas are covered with a black soil on which cotton

and acacias flourish, but which is very dreary in appearance during the dry season.

Vriddhāchalam Town ('Old mountain').—Town in the *tāluk* of the same name in South Arcot District, Madras, situated in 11° 32′ N. and 79° 20′ E., on the road from Cuddalore to Salem on the banks of the Manimuktānadī. It was once the head-quarters of a District Court and later of the revenue subdivision of Vriddhāchalam, and is a Union with a population (1901) of 9,433. It contains an ancient and famous temple which was once fortified. During the Carnatic Wars the place changed hands more than once. Here Pigot and Clive narrowly escaped being taken prisoners by the French in 1751. It is a sacred town and many legends are connected with it.

Vyāra.—Head-quarters of the *tāluka* of the same name, Navsāri *prānt*, Baroda State, situated in 21° 7′ N. and 73° 27′ E., on the Tāpti Valley Railway. Population (1901), 6,117. The town possesses a dispensary, Munsif's and magistrate's courts, a vernacular school, and public offices. It is administered as a municipality, with an annual grant from the State of Rs. 1,100. The only objects of interest are a Pārsī Tower of Silence, and two small dilapidated forts.

Vygai.—River in Madura District, Madras. *See* VAIGAI.

Vypīn (*veppu*, 'a deposit').—Island in the Cochin *tāluk* of Cochin State, Madras, situated between 9° 58′ and 10° 11′ N. and 76° 10′ and 76° 14′ E. It lies between the backwater on the east and the Arabian Sea on the west, and the Crānganūr and Cochin bars on the north and the south. It is 14¾ miles long with a mean breadth of 1⅜ miles. The southern extremity, 23½ acres in extent, is British territory, and its northern end, 1¾ square miles in area, belongs to the State of Travancore. The total area of the island, including these portions, is a little over 22½ square miles, of which about 7 square miles are under 'wet' cultivation and 11 square miles consist of coco-nut plantations. The population of the Cochin portion of the island is (1901) 40,365; including 25,252 Hindus, 13,554 Christians, and 1,526 Musalmāns.

The island has been formed by the deposits of silt brought down by the rivers discharging into the backwater and the sea. The date of its appearance, or, more probably, of the peopling of the place, is preserved in old Cochin deeds, which are often dated in the *pudu veppu* (literally, 'new deposit') era, commencing A.D. 1341. As the soil is richly overlaid with alluvium, the coco-nut palm grows most luxuriantly, and during the years in which monsoon inundations are normal the 'wet' lands yield a rich harvest.

The island has been the scene of stirring historical events. Many a battle was fought here between the forces of the Zamorin of Calicut and the Rājā of Cochin. In 1503 the Zamorin was signally defeated

by Cochin with the assistance of the Portuguese. During the Dutch period, the island was practically in the hands of that nation for several years, and throughout the Travancore wars with Mysore it was a disputed point. In the Travancore portion the remains of the Dutch fort of Ayakotta still exist. There are several churches on it, built in the time of the Portuguese and the Dutch, while the Syrian Church at Narakkal is said to have been founded long before that period. In Pallipuram, a village in the island, is a Lazaretto managed by the Collector of Malabar. The place was a Jesuit college during the Portuguese period. The Dutch (1663–1795) turned it into a Lazarhaus, and under one of the articles of the surrender of Cochin (1795) the Madras Government is bound to maintain it.

Vyteri.—Village in Malabar District, Madras. *See* VAYITTIRI.

Wa States.—A collection of small States in Burma, lying between about 21° 30′ and 23° 30′ N., east of the Salween and of that portion of the Northern Shan States which is directly controlled by the Superintendent at Lashio. It consists, for the most part, of rugged mountainous country of which very little is known, and is inhabited by various races, among whom the WAS predominate. A good deal of the south-western portion of the Wa country is taken up by the State of MANGLÖN. Wa government is practically a system of village communities. The population of Sonmu is mixed. The State contains Kachins, Shans, and Panthays, as well as Was; and the settlement of Panthay (Chinese Muhammadan) muleteers at Panglong is an important one. Mönghka is a Muhsö, and Mönghsaw a Lao Shan, settlement in the Wa country. The control exercised over the Wa States (with the exception of Manglön) is for the present only nominal.

The Was are a hill people of Mon-Anam extraction inhabiting for the most part the northern half of the trans-Salween British Shan States. The residents of the remoter portions of the Wa tracts, known as the 'Wild Was,' are in many ways at a very low stage of civilization. Their resentment of interference and their savage habits, of which the practice of cutting off the heads of human victims is the most notorious, have led to their being left a good deal to themselves in the past; and no attempt was made to enumerate them in 1901, so that their precise numbers are not known. There are, however, a fairly large proportion of Was outside the omitted census areas, mostly in the Southern Shan State of Kengtung. These were for the most part enumerated under other names, such as Tai Loi (15,660), Hsen Hsum (1,351), and the like; those returned as Was numbered only 5,964. Taken altogether, the representatives of the Wa race, inclusive of the inhabitants of the omitted areas, are probably in excess of 50,000. The Was proper are largely spirit-worshippers, and there seems to be no reason to doubt that their custom of cutting off heads has a religious basis. Even those

who call themselves Buddhists are so only in name. In the case of the Tai Loi, the En, the Hsen Hsum, and the other Wa tribes of Kengtung, on the other hand, the Buddhism professed is more real. The Was are good agriculturists and cultivate the opium poppy largely. In person the real Wa is ordinarily darker than his Shan neighbours, and his swarthiness is enhanced by the dirt that usually clings to him. The Wa's dress is at all times scanty, and consists at best of little more than an exiguous loin-cloth, while it is said that during the hot season both men and women occasionally dispense altogether with clothing. The 'Wild Was'' villages are usually roughly fortified, and have frequently only one entrance through a covered or tunnelled way. The Wa language belongs to the Mon-Anam sub-family, and is closely allied to the speech of the Palaungs to the west of the Salween, and of the Hkamuks east of the Salween in Siamese territory. The Wa tribes of Kengtung mentioned above speak dialects of their own, differing from the Wa of the Northern Shan States

Wāda.—*Tāluka* in Thāna District, Bombay. *See* VĀDA.

Wādegaon.—Town in the Bālāpur *tāluk* of Akola District, Berār, situated in 20° 35′ N. and 76° 54′ E. Population (1901), 5,825.

Wadgaon Town (1).—Head-quarters of the Māval *tāluka* of Poona District, Bombay, situated in 18° 44′ N. and 73° 28′ E., on the south-east branch of the Great Indian Peninsula Railway, 23 miles north-west of Poona city. Population (1901), 1,248. It was the scene of the disgraceful convention of Wadgaon, where in 1778–9 the commanders of the Bombay army, which had been sent to restore Raghunāth Rao to the Peshwāship, agreed to give up to the Marāthās all the British conquests since 1773 as the price of being allowed to retreat. The town contains a Sub-Judge's court and the revenue offices of the *tāluka*, and one school with 52 pupils.

Wadgaon Town (2).—Town in the State of Kolhāpur, Bombay, situated in 16° 50′ N. and 74° 22′ E. Population (1901), 5,168. It is administered as a municipality, with an income of Rs. 6,000. Drinking-water is supplied from a reservoir to the south of the town, built during the famine of 1896 at a cost of more than a lakh. After having been burnt several times during the feuds between the Kolhāpur State and the Patvardhans, it was plundered by Raghunāth Rao (1761–62). Formerly, during the reign of Sambhājī (1712–60), Wadgaon was a favourite residence of the Kolhāpur family, and had a strong detachment of horse. It has a large Hemādpanti temple of Lakshmī and a Jain temple.

Wadnagar.—Town in the Kadi *prānt*, Baroda State. *See* VADNAGAR.

Wadnera.—Town in Amraotī District, Berār. *See* BADNERA.

Wadhwān State.—State in the Kāthiāwār Political Agency, Bom-

bay, lying between 22° 26′ and 22° 50′ N. and 71° 26′ and 71° 53′ E., with an area of 236 square miles. It is bounded on the north by the territory of Dhrāngadhra; on the south by the territory of Chuda and Limbdi, and by the Dhandhuka *tāluka* of Ahmadābād District; on the east by Limbdi; and on the west by Muli and Sāyla territory. The country is flat and is irrigated to some extent. The climate is hot but healthy. The annual rainfall averages about 20 inches.

In ancient times Wadhwān appears to have been held by Valas, Solankis, Vāghelas, and Muhammadans, who were dispossessed by the Jhālas, the present ruling family. The Jhālas are sprung from Prathirājjī, the eldest son of Rāj Chandrasinghjī of Dhrāngadhra (1584–1628), who came to Wadhwān and endeavoured to obtain the assistance of the *thānadār* against his father. The *thānadār*, though not engaging in active operations, suffered Prathirājjī to reside there. He aided the *thānadār* in several daring exploits, but afterwards being impatient of control plundered treasure. He was then imprisoned and sent to Ahmadābād, where he died in confinement. His younger brother succeeded to the throne of Dhrāngadhra, and his sons were outlawed. Finally, the eldest took Wānkāner, and the second son established himself at Wadhwān about 1630. The ruler, like other Kāthiāwār chiefs, entered into the usual engagements in 1807. The family in matters of succession follows the rule of primogeniture, and holds a *sanad* authorizing adoption. The chief is entitled to a salute of 9 guns. His title is Thākur Sāhib.

The population at the last three enumerations was: (1881) 42,500, (1891) 42,438, and (1901) 34,851, showing a decrease of 18 per cent. during the last decade, owing to the famine of 1899–1900. In 1901 Hindus numbered 27,714, Musalmāns 2,032, and Jains 5,080. The State contains one town, WADHWĀN, the capital; and 31 villages.

The soil is black or light, in about equal proportions. The area is 80·8 square miles, of which 3 square miles were irrigated in 1903–4. Cotton and the usual grains are grown. Country soap, which is largely used by the people of Kāthiāwār and Gujarāt, is the chief article of manufacture; but weaving and dyeing are also carried on, and there is one ginning factory. The produce of the State, once exported from the port of Dholera, now goes by rail.

Wadhwān ranks as a second-class State in Kāthiāwār. The chief has power to try his own subjects for capital offences. He enjoys an estimated revenue of 3¾ lakhs, chiefly derived from land, and pays a tribute of Rs. 28,692 (including *sukhdi* on account of Ahmadābād District) jointly to the British Government and the Nawāb of Junāgarh. There is one municipality, supported by State revenues. The chief maintains a military force of 163 men, of whom 39 are mounted; and there is one jail with a daily average in 1903–4 of 22 prisoners.

The State maintained a police force of 151 men in 1904–5. It has 21 schools, with a total of 1,658 pupils, and two dispensaries treating about 15,000 patients in 1903–4. In the same year about 766 persons were vaccinated.

Wadhwān Town.—Chief town of the State of the same name in Kāthiāwār, Bombay, situated in 22° 42′ N. and 71° 44′ E., at the junction of the Kāthiāwār railways with the Bombay, Baroda, and Central India Railway. Population (1901), 16,223; including 10,902 Hindus, 3,507 Jains, and 1,699 Musalmāns. Wadhwān is fortified, and the chief's palace, an imposing building when seen at a distance, occupies a commanding position in the southern portion of the town. It is a local centre of the cotton trade, and has a wealthy community of merchants. A large import trade is also carried on in grain, *ghī*, and cotton stuffs. Excellent soap manufactured here is used throughout Kāthiāwār, and is also exported to Gujarāt. The native saddles and horse furniture generally are of local fame. The stone-cutters and quarrymen are also skilled workmen. Wadhwān town was founded in very ancient times. It has acquired its modern importance from being the junction of the Wadhwān branch of the Bombay, Baroda, and Central India Railway with the Bhavnagar-Gondal line. The former was converted from broad to narrow gauge from Viramgām to Wadhwān in 1902, allowing the peninsula the benefit of through traffic with the whole of Northern India by the Rājputāna-Mālwa Railway. The Wadhwān civil station, where the Political Agent, Jhālāwār *prānt*, and other officials reside, is about 3 miles west of Wadhwān town, 66 miles north-east of Rājkot, and 104 miles north-west of Bhaunagar. The ground on which the station is built is leased from the Wadhwān Darbār and the Dudhrej *girāsiās*. Among public buildings are a clock-tower, a cotton market, grain and vegetable markets, and a *tālukdāri* school where the sons of *girāsiās*, who are unable to afford the expense of the Rājkumār College, can obtain education. The population of the civil station in 1901 was 11,255. Wadhwān has a cotton-mill.

Wagaru.—Township of Amherst District, Lower Burma. *See* KYAIKKAMI.

Wai Tāluka.—North-western *tāluka* of Sātāra District, Bombay, lying between 17° 48′ and 18° 11′ N. and 73° 38′ and 74° 13′ E., with an area, including the petty subdivision or *petha* of Khandāla, of 391 square miles. It contains one town, WAI (population, 13,989), the head-quarters; and 125 villages. The population in 1901 was 94,377, compared with 97,432 in 1891. The density, 241 persons per square mile, is almost equal to the District average. The demand for land revenue in 1903–4 was 1½ lakhs, and for cesses Rs. 14,000. Wai is surrounded and crossed in a number of directions by spurs of the Western Ghāts, while it is divided by the Mahādeo range into two

portions belonging to the valleys of the Kistna and Nīra rivers. The Kistna valley is the more fertile of the two. The country near the river is well wooded, and the hills in parts are fairly clothed with trees. The other half, termed the Khandāla *petha*, is bare and slopes towards the Nīra, which separates it from Poona District. Land is watered from both wells and streams. Near the Kistna the soil is good, elsewhere it is poor. The annual rainfall averages slightly more than 33 inches.

Wai Town.—Head-quarters of the *tāluka* of the same name in Sātāra District, Bombay, situated in 17° 57′ N. and 73° 54′ E., on the Kistna river, 20 miles north-by-west of Sātāra town, and 15 miles east of Mahābaleshwar. Population (1901), 13,989. Wai is one of the most sacred places on the Kistna, and has a large Brāhman population. The caves in the neighbourhood show that it was an early Buddhist settlement, and it is locally identified with the Vairātnagar visited by the Pāndavas during their exile. Between 1453 and 1480 Wai was a military post of the Bahmani Sultāns, and supplied troops for Mahmūd Gawan's expedition to the Konkan. In 1648 the town was the head-quarters of a Bijāpur official; in 1659 it passed into the hands of the Marāthās, and in 1687 witnessed the defeat of a Bijāpur force dispatched to storm it. Save for a short period of reoccupation by the Muhammadans in 1690, Wai remained a Marāthā possession, and was occupied in 1753 on behalf of the Peshwā by Rājārām's widow, Tāra Bai. In 1791 it belonged to the Raste family, and in 1798 was the scene of Parasu Rāma Bhau Patvardhan's incarceration. It was mentioned in 1827 as 'a town formerly belonging to the Rastes and still their residence.' The face of the Kistna river for half a mile is lined with steps or *ghāts*, and for an hour after dawn and before sunset people are incessantly engaged in ablutions and clothes-washing. Wai is a commercial centre and also a place of pilgrimage. The municipality, which was established in 1855, had an average income during the decade ending 1901 of Rs. 12,000. In 1903–4 the income was Rs. 14,000. Wai contains many temples, a high school with 153 pupils, a Subordinate Judge's court, and a dispensary. In the adjacent village of Lohāre are some interesting Buddhist caves.

Wainād.—Subdivision and *tāluk* of Malabar District, Madras. *See* WYNAAD.

Waingangā ('the arrow of water').—River in the Central Provinces, which rises near the village of Partābpur or Mundāra (21° 57′ N. and 79° 34′ E.), 11 miles from the town of Seonī on the Sātpurā plateau, and flows in a wide half-circle, bending and winding among the spurs of the hills, from the west to the east of Seonī District. Here it is diverted to the south, being joined by the Thānwar river from Mandlā, and forms the boundary of Seonī for some miles until it enters Bālāghāt. The upper valley, at first stony and confined, becomes later an alter-

nation of rich alluvial basins and narrow gorges, until at the eastern border of Seonī the river commences its descent to the lower country, passing over a series of rapids and deep channels, overhung by walls of granite, 200 feet high. The course of the Waingangā during the last six miles before its junction with the Thānwar may perhaps be ranked next to the Bherāghāt gorge of the Narbadā for beauty of river scenery in the Central Provinces. Emerging from the hills, the river flows south and south-west through the rich rice lands of Bālāghāt and Bhandāra Districts, passing the towns of Bālāghāt, Tumsar, Bhandāra, and Paunī, and receiving the waters of numerous affluents. Of these the principal are the Bāgh in Bālāghāt, and the Kanhān, Chūlband, and Gārhvi in Bhandāra. It then flows through Chānda, and after a course of 360 miles joins the Wardhā at Seonī on the south-western border of Chānda District. The river formed by the confluence of the Wardhā and Waingangā is known as the PRĀNHITA, and is a tributary of the GODĀVARI.

In Seonī and Bālāghāt Districts the bed of the Waingangā is a series of basalt ridges with deep pools held up behind them, while in the hot season the river shrinks to a narrow stream trickling between the indentations of the ridges. Below Bālāghāt the bed is generally broad and sandy, interspersed with occasional barriers of rock. Its width extends to about 600 yards in Chānda. During the flood season the river is navigable for light canoes from the confluence of the Bāgh as far as Garhchirolī in Chānda, though one or two barriers of rock impede traffic. Timber is floated down it, and grain and vegetables are carried for short distances by boat. No use is made of the river for purposes of irrigation. The drainage area of the Waingangā includes the east of the Nāgpur plain and also the greater part of the Districts of Seonī and Chhindwāra, whose waters are brought to it by the Pench and Kanhān rivers. It is crossed by the narrow-gauge Sātpurā Railway near Keolāri, by the main line of the Bengal-Nāgpur Railway near Nawāgaon in Bhandāra, and by a fine stone bridge at Chhapāra on the Seonī-Jubbulpore road. An annual fair is held at its source at Mundāra.

The curiously winding and circuitous course of the Waingangā through Seonī District is thus accounted for in a Hindu legend. A Rājā in Bhandāra had a talisman, and by placing this in his mouth he could be transported to Allahābād to bathe in the Ganges. But after he had done this daily for a long time, the Ganges said to him that it was a great labour for him to come every day to Allahābād to bathe in its waters; and that if he filled a bottle with its water and laid it down by his house, a new stream would flow whose water would be that of the Ganges, and bathing in which would confer the same religious efficacy. So the Rājā thanked the river, and joyfully took a bottle of the water. But on his way home, while stopping to rest at

Partābpur, the present source of the Waingangā, he inadvertently laid the bottle on the ground. Instantly a stream issued forth from it and began to flow. The dismayed Rājā then besought the river, saying that this place was far from his home, and he would not be able to come there and bathe. So the river, pitying him, changed its course, and flowed north, east, and south in a wide half-circle, until it passed through Bhandāra by the Rājā's house.

Wair.—*Tahsīl* and head-quarters thereof in the Bharatpur State, Rājputāna. *See* WER.

Wajrakarūr.—Village in the Gooty *tāluk* of Anantapur District, Madras, situated in 15° 1′ N. and 77° 23′ E. Population (1901), 3,884. The place, as its name implies, is noted for its diamonds. Two companies, the Indian Exploration Company and the Madras Diamond Mining Company, have concessions for different parts of the ground; but they have not succeeded in finding any stones of value, and no work is being carried on at present. Diamonds are, however, frequently picked up by the villagers in the fields after rain. When heavy showers fall a great proportion of the people turn out and, taking their meals with them, spend hours in closely searching the ground; brokers then come in from various centres and purchase any finds. A few years ago a stone was picked up which, when cut and polished, was valued at upwards of £10,000.

Wakema Subdivision.—Eastern subdivision of Myaungmya District, Lower Burma, comprising the WAKEMA and MOULMEINGYUN townships.

Wakema Township.—North-east township of Myaungmya District, Lower Burma, lying between 15° 44′ and 16° 48′ N. and 94° 53′ and 95° 35′ E., with an area of 718 square miles. It is absolutely flat and cut up by tidal creeks, large and small. The population of the existing township, which was reconstituted in 1903, was 75,478 in 1901, distributed over 194 villages and one town, WAKEMA (population, 4,300), the head-quarters. In 1903–4 the area under cultivation was 151 square miles, paying Rs. 3,20,000 land revenue.

Wakema Town.—Head-quarters of the subdivision and township of the same name, in Myaungmya District, Lower Burma, situated in 16° 35′ N. and 95° 14′ E., on the banks of the Wakema river, one of the connecting channels which traverse the Irrawaddy delta, uniting the main streams. Wakema is a flourishing trade centre, and a principal port of call for the steamers of the Irrawaddy Flotilla Company. Its population in 1901 was 4,300, or nearly as large as that of the District head-quarters. Local affairs are managed by a town committee, constituted in 1902. The income of the town fund in 1903–4 amounted to Rs. 36,000, and the expenditure to Rs. 20,000. There is a town hospital with nineteen beds.

Wālājābād (*Wālājāhābād*).—Town in the Conjeeveram *tāluk* of Chingleput District, Madras, situated in 12° 47′ N. and 79° 50′ E., on the left bank of the Pālār and on the branch railway between Chingleput and Conjeeveram. Also called Dandei Sīvaram. Population (1901), 4,172. The place is named after Muhammad Alī, Nawāb of Arcot, who took the title Wālājāh in 1776. It became a military cantonment about 1786; and for many years afterwards a European regiment, a regiment of Native cavalry, and two or three regiments of Native infantry were stationed here. The lines were placed along the sides of a gravelly plateau which rises abruptly about 500 yards from the bank of the river, and the native town lay in the low ground between. The centre of the plateau supplied a spacious parade-ground, while the undulating plain behind, stretching away northwards towards Tenneri, afforded ample room for extended manœuvres. On this plain a race-course was laid out, and the ruins of the grand stand still survive. Two of the officers' houses, a few gate-posts, and the cemetery are all the vestiges that now remain of a once bustling cantonment. The place was found to be very unhealthy, and the mortality among the troops became so great that it was called the 'grave of Europeans.' The cantonment was therefore abandoned, but continued up to 1860 to be the head-quarters of a native veteran battalion, the drummer-boy establishment, and details of native sick. Wālājābād still gives its name to the 83rd regiment of the Indian Army, formerly the 23rd Madras Light Infantry, which bears on its colours 'Seringapatam' and 'Nāgpur.' The unhealthy reputation of the place is still maintained. Outbreaks of cholera are frequent. The houses are tumble-down and squalid. The local board has made vigorous efforts to improve matters by uprooting the dense growth of prickly-pear around the town and raising and draining the streets. Owing to its position, Wālājābād has long been an emporium for the trade of the surrounding country. Labbai merchants monopolize most of this. Weaving is also carried on, but not with such success as formerly, when Wālājābād chintz was a commodity much in request. Oil, grain, and other agricultural products are now the staple articles of commerce. The Free Church of Scotland maintains two flourishing schools and a hospital in the town.

Wālājāpet Tāluk.—Eastern *tāluk* of North Arcot District, Madras, lying between 12° 51′ and 13° 12′ N. and 79° 15′ and 79° 48′ E., with an area of 484 square miles. In 1891 the population was 239,349, but in 1901 it had declined to 221,812, the decrease exceeding 7 per cent., a more serious fall than occurred in any other *tāluk*. It is still, however, the most populous part of the District. It contains 246 villages, and the three towns of RĀNIPET (population, 7,607), SHOLINGHUR (6,442), and WĀLĀJĀPET (10,067), the head-quarters. The demand on account

of land revenue and cesses in 1903–4 was Rs. 5,23,000. Wālājāpet is made up of the old *tāluks* of Kāveripāk and Sholinghur, which were combined in 1861, together with a few villages from the former *tāluk* of Tiruvallam. For the most part the surface is flat, but in the north several small hills occur. The highest and most remarkable of these is the Sholinghur hill, upon which is perched a celebrated temple. The *tāluk* is well supplied with communications, the south-west line of the Madras Railway crossing it from east to west and the north-west line traversing it from south to north.

Wālājāpet Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 12° 56′ N. and 79° 22′ E., 3 miles north of the Pālār river, and 68 miles from Madras city. It is a decaying place, the population in 1901 (10,067) being less than it was thirty years before. It was constituted a municipality in 1866. The municipal receipts and expenditure during the ten years ending 1902–3 averaged Rs. 14,700 and Rs. 14,400 respectively. In 1903–4 they were both about 17,000. School fees and the house and land taxes form the principal sources of income. The town is remarkably well built and neatly arranged. It was once the trade centre of the District; and its decline is due to the opening of the Madras and South Indian Railways, neither of which touches it, and both of which have drawn commerce to other rivals. Weaving in silk, cotton-dyeing, carpet-making, and the manufacture of oils chiefly employ the people. The satin cloths of Wālājāpet are still excellent, but the carpets have been spoilt by the introduction of aniline dyes.

Wālam.—Town in the Kadi *prānt*, Baroda State. *See* VĀLAM.

Walavanād.—Inland *tāluk* in the south of Malabar District, Madras, lying between 10° 45′ and 11° 14′ N. and 76° 5′ and 76° 48′ E., with an area of 882 square miles. It contains 118 *amsams*, or parishes. The population increased from 328,068 in 1891 to 351,112 in 1901. The land revenue demand in 1903–4 amounted to Rs. 4,17,000. The head-quarters are at ANGADIPURAM (population, 4,500). The *tāluk* runs along the foot of the Western Ghāts, many of the spurs of which extend into it. A detached portion, the Attapādi Valley, lies beyond this range. The rest is a series of hills and dales, the former of which are covered with groves of fruit trees and dotted with the dwellings of the cultivators, while the latter are cultivated with rice watered from the perennial streams which rise among them.

Walgaon Town (or Balgaon).—Town in the District and *tāluk* of Amraotī, Berār, situated in 21° N. and 77° 45′ E. Population (1901), 5,284. A weekly bazar is held here.

Waltair.—Town in Vizagapatam District, Madras. *See* VIZAGAPATAM.

Wānā.—A wide open valley, containing the Wānā post, the head-

quarters of the Southern Wazīristān Agency, North-West Frontier Province, situated in 37° 18′ N. and 69° 44′ E. The valley is 12 miles long by 8 broad, lying west of the Mahsūd highlands, from which it is separated by the Janimela group of mountains. The elevation of the valley varies from 5,780 to 4,300 feet; and it forms a stony plain intersected by many torrents, the principal being the Dhāna, which is called the Wānā Toi on entering the plain. Most of the water flowing down these channels is used for irrigation, the land along the Toi being extensively cultivated and yielding good crops. The plain is chiefly inhabited by Wazīrs; but its former inhabitants, the Ghilzai Powindas, still hold the large village of Dotanni Kot. In 1894 Wānā was the scene of the attack by the Mahsūds under the Mullā Powinda on the British delimitation escort under Brigadier-General A. H. Turner, which resulted in the repulse of the Mahsūds with a loss of 350 killed and 700 wounded, the British loss being 45 killed and 75 wounded.

Wandiwāsh Tāluk.—South-east *tāluk* of North Arcot District, Madras, lying between 12° 21′ and 12° 41′ N. and 79° 19′ and 79° 46′ E. Area, 466 square miles; population in 1901, 185,252, compared with 177,723 in 1891; number of villages, 284; demand for land revenue and cesses in 1903-4, Rs. 5,05,000. It consists of a level plain, diversified only by a very few rocky hills. The soil is poor and the country is but thinly wooded. The head-quarters are at WANDIWĀSH.

Wandiwāsh Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 12° 31′ N. and 79° 36′ E., 19 miles from Acharapākkam station on the main line of the South Indian Railway. Population (1901), 5,971. Wandiwāsh is historically interesting as the scene of several important operations in the Carnatic Wars of the eighteenth century. The fort belonged to a member of the family of the Nawāb of Arcot. In 1752 it was attacked by Major Lawrence, and in 1757 Colonel Anderson destroyed the town but failed to capture the fort. The French garrison twice in that year repulsed the English. A more energetic attack under Brereton in 1759 was also unsuccessful. Immediately after this the French soldiers mutinied; and though they were eventually pacified, the fort surrendered to Coote before the end of the year. In 1760 the French commanded by Lally, with 3,000 Marāthās under Bussy, appeared before the town; and in the pitched battle that ensued they were utterly routed by Coote, and Bussy was taken prisoner. This victory was in its consequences the most important ever won over the French in India. In 1780 Lieutenant Flint by a bold stratagem saved the fort from falling into the hands of Haidar Alī, and with very inadequate means held it for nearly three years against every device of the enemy. Twice he was relieved by Sir Eyre Coote, and twice at least he repelled most vigorous assaults.

Wānkāner State.—State in the Kāthiāwār Political Agency, Bombay, lying between 22° 25′ and 22° 48′ N. and 70° 50′ and 71° 12′ E., with an area of 415 square miles. The territory is hilly. The climate is hot, but healthy. The annual rainfall averages 22 inches.

The founder of the Wānkāner house was Sartanji, son of Prathirājji, the eldest son of Rāj Chandrasinghjī of Dhrāngadhra (1584–1628). The ruler entered into the usual engagements in 1807. The family follows the rule of primogeniture in matters of succession, and holds a *sanad* authorizing adoption. The chief is entitled to a salute of 9 guns. He also owns the village of Khasta in Ahmadābād District, the annual income of which is about Rs. 40,000. His title is Rāj Sāhib of Wānkāner.

The population at the last three enumerations was: (1881) 30,491, (1891) 39,329, and (1901) 27,383, showing a decrease of 30 per cent. during the last decade, owing to the famine of 1899–1900. In 1901 Hindus numbered 17,728, Musalmāns 7,911, and Jains 1,719. The State contains one town, WĀNKĀNER, the capital; and 101 villages.

The soil is chiefly light, and the cultivated area is 104 square miles. Irrigation is practised to some extent from artificial tanks and wells, the total irrigated area in 1903–4 being 4 square miles. The principal products are grain, sugar-cane, and cotton. Experiments were made in 1903–4 with Egyptian cotton, but were not very successful. Horse-breeding is carried on with 3 stallions and 34 mares, and mule-breeding with one donkey stallion. A kind of black marble is found within the limits of the State. It contains one ginning factory. The nearest port is Jodiya.

Wānkāner ranks as a second-class State in Kāthiāwār. The chief has power to try his own subjects for capital offences. The normal revenue is estimated at 3 lakhs. A tribute of Rs. 18,879 is paid jointly to the British Government and the Nawāb of Junāgarh. The chief maintains a police force of 71 men, besides 13 irregulars, mounted on horses and camels. There is one jail, with a daily average (1903–4) of five prisoners. The only municipality, which is Wānkāner, is maintained from the State revenues. The State has 15 schools, including one English school, with a total of 1,094 pupils; and also one hospital and two dispensaries, treating 13,000 patients.

Wānkāner Town.—Capital of the State of the same name in Kāthiāwār, Bombay, situated in 22° 36′ N. and 71° 2′ E., on the Wadhwān-Rājkot Railway. It is very picturesquely placed in a commanding position at the junction of the Patalio Voklo and Machhu rivers, by which it is surrounded on every side except the east. Population (1901), 6,973. The town is locally famous for the manufacture of cotton cloth, such as scarves, waist-cloths, &c., and also for locks and shoes. The principal exports are cotton cloth, *ghī*,

which is usually sent to Rājkot, and a small quantity of grain and raw cotton. The imports are metals, timber, and cloth of English manufacture.

Wanparti.—A *samasthān* or tributary estate in the south-west of Mahbūbnagar District, Hyderābād State. The villages number 124, and are scattered over the Nāgar Karnūl, Jedcherla, Mahbūbnagar, Kalvakurti, and Amrābād *tāluks* of Mahbūbnagar District. The area is about 450 square miles, and the population in 1901 was 62,197. The revenue is 1·5 lakhs, and the tribute paid to the Nizām is Rs. 76,883. Up to 1727 Sugūr was the seat of the Rājā, and gave its name to the *samasthān*, but subsequently Wanparti was selected as the capital. The Kistna river flows through the south-western portion for a distance of 16 miles, but owing to the depth of the bed its waters are not utilized for irrigation. The town of Wanparti contains an oil-mill for extracting castor oil, which is exported to Raichūr and also to Kurnool in the Madras Presidency. Cloth and *sārīs* both of cotton and silk are made here, but their texture is not so fine as those of Amarchinta and Gadwāl.

Wānsda.—Petty State within the Political Agency of Surat, in Gujarāt, Bombay. *See* BĀNSDA.

Wanyin (Burmese, *Banyin*).—State in the central division of the Southern Shan States, Burma, lying between 20° 19′ and 20° 31′ N. and 97° 9′ and 97° 25′ E., with an area of 219 square miles. It is bounded on the north by Nawngwawn; on the east by Möngpawn; on the south by Hsahtung; and on the west by Yawnghwe, from which it is separated by the Tamhpak stream. The country consists chiefly of rolling downs, rising from the valley of the Tamhpak on the west to a high range which reaches 8,000 feet at its highest point on the east. It is well watered by the Tamhpak and its tributaries. The main crop is rice, which is grown both in *taungyas* and in the valleys and plains. The population of the State in 1901 was 11,297, distributed in 158 villages. Two-thirds of the inhabitants are Taungthus, and most of the remainder are Shans. The former occupy all but the low-lying tracts; the Shans are found for the most part in the plains to the west and north, while a few Inthas live in the valleys. The Myoza has his head-quarters at Wanyin, a village of 568 inhabitants set in the middle of 'wet' paddy-fields towards the north of the State. The revenue in 1903–4 amounted to Rs. 17,000 (mostly *thathameda*); and the chief items of expenditure were tribute to the British Government (Rs. 8,000), salaries and administration (Rs. 6,100), privy purse (Rs. 1,800), and public works (Rs. 1,000).

Warangal Division.—Division in the Hyderābād State, forming the eastern portions of the Nizām's Dominions, and extending from the Pengangā in the north to the Kistna on the south. It is bounded on

the north by Berār and the Central Provinces; on the east by the Pranhitā and Godāvari rivers, and by the Godāvari District of Madras; on the south by the Kistna river and the Kistna District of Madras; and on the west by the Districts of Indūr, Medak, Atrāf-i-balda, and Mahbūbnagar. The head-quarters of the Commissioner are at HANAMKONDA, once a suburb of the old city of Warangal. Up to 1905 the Division consisted of the three Districts—ELGANDAL, NALGONDA, and WARANGAL—the population of which increased from 2,109,475 in 1881 to 2,572,347 in 1891 and 2,688,007 in 1901. During the last decade the increase was greater than in any other Division. The total area was 21,075 square miles, and the density 128 persons per square mile, compared with 135 for the whole State, of which the Division was the second largest in both area and population. In 1901 Hindus and Musalmāns formed respectively 95 and 4·5 per cent. of the population, while the other religions comprised Christians (2,934, of whom 2,881 were natives), Sikhs (332), Pārsīs (34), Jains (13), and Animists (1,339). Owing to changes made in 1905, this Division now comprises the Districts shown in the subjoined table, which gives their area, population, and land revenue in their present form:—

Districts.	Area in square miles.	Population, 1901.	Land revenue and cesses, 1901, in thousands of rupees.
Warangal	8,305	745,757	17,13
Karīmnagar (Elgandal)	5,369	861,833	23,98
Adilābād (Sirpur Tāndūr)	7,403	477,848	6,72
Total	21,077	2,085,438	47,83

This Division contains 11 towns, or about one-seventh of the total number in the State, but none with a population of 20,000; and 3,809 villages. The chief towns of commercial importance are HANAMKONDA, KARĪMNAGAR, and EDLĀBĀD. YELLANDLAPĀD is the centre of the coal-mining area.

Warangal District (formerly called Khammamett).—District of the Warangal Division in the south-east of Hyderābād State, lying between 16° 38′ and 18° 36′ N. and 78° 50′ and 81° 33′ E., with a total area of 9,729 square miles, of which about 6,319 are *khālsa* lands, the rest being *jāgīr*[1]. It is bounded by the Central Provinces District of Chānda and the Madras Districts of Godāvari and Kistna on the east and south-east; and by the Hyderābād Districts of Nalgonda, Atrāf-i-balda, Medak, and Karīmnagar on the south, west, and north. A range

[1] These limits refer to the District before the reorganization of 1905. See paragraph on Population.

of low hills runs from Pākhāl and Singareni to Ashwaraopet in the south-east, bounding the lower Godāvari valley. The Kandikal Gutta range extends from the south-east to Chinnūr in Adilābād District. Ten miles north-west of Warangal are the Chandragiri hills, and 14 miles west of it the well-known iron hills of Hasanparti. The country around the town of Hanamkonda is about 1,700 feet above sea-level, but the average elevation of the District is only 870 feet. The whole country is dotted with isolated hills.

Physical aspects.

The two principal rivers are the GODĀVARI and the KISTNA. The former touches the District north of Mangapet in the Pākhāl *tāluk*, and, flowing in a south-easterly direction along its eastern boundary, leaves it at the south-east of Pāloncha, whence it enters the Godāvari District of Madras, after a course of 113 miles in Warangal. The Kistna passes along the southern boundary of the Khammamett *tāluk* for a short distance only. The other rivers are the Muner, the Pāler, the Kinārsāni, and the Wīra, besides some minor streams. The Muner flows from the Pākhāl Lake, and, joining the Wīra, falls into the Kistna after a course of 96 miles. The Pāler, rising in the Vardannāpet *tāluk*, flows almost parallel to the Muner, and also meets the Kistna, 7 miles south of Jaggayyapeta. The Kinārsāni, after traversing the Pākhāl, Yellandlapād, and Pāloncha *tāluks* for a distance of 55 miles, falls into the Godāvari near Bhadrāchalam. The Wīra is a tributary of the Muner and joins it near Jalpalli. The minor streams are the Pākhāl, Kalter, and Laknāvaram.

The PĀKHĀL LAKE in the Pākhāl *tāluk* has been formed by throwing a dam, 2,000 yards long, across the Pākhāl river, between two low headlands. The lake is 8,000 yards long by 6,000 broad, and when full covers an area of 13 square miles.

The geological formations are the Archaean gneiss and schists, the Cuddapahs and Kurnools, the Sullavais (perhaps identical with the Kurnools), the Gondwānas (including Tālcher, Barākar, Kāmptee, Kota-Māleri, and Chikiāla beds), and the alluvium. The Archaean occupies principally the south-west, and the remaining beds the north-east of the District[1]. The Barākar is the most important group from an economic point of view, on account of its thick seams of coal, which are actively worked in the Singareni coal-fields[2]. The famous Golconda diamonds were formerly obtained from the Cuddapahs and Kurnools, principally from the basement beds of the latter. The Chikiala sandstones and the Archaean schists contain rich iron ores.

The forest flora of the District consists chiefly of teak, satin-wood,

[1] W. King, *Memoirs, Geological Survey of India*, vol. viii, pt. i, and vol. xvii, pt. iii.

[2] W. Saise, *Records, Geological Survey of India*, vol. xxvii, pt. ii.

eppa (*Hardwickia binata*), *nallāmaddi* (*Terminalia tomentosa*), *sandra* (*Acacia Catechu*), bamboo, and *tarvar* (*Cassia auriculata*).

In the extensive forests large game is abundant, such as tigers, leopards, cheetahs, bears, wolves, hyenas, wild hog, *sāmbar*, spotted deer, *nīlgai*, bison, 'jungle sheep' (*Cervulus muntjac*), and antelope. The Pākhāl forests are preserved for His Highness the Nizām. Wild duck, teal, snipe, blue and green pigeons, partridges, quails, and wild geese are abundant. Wild elephants were found at one period in the Samatmanyam jungle in the Parkāl *tāluk*, but there is now only a single female.

The climate of the *tāluks* of Warangal, Cherial, and Vardannāpet is dry and healthy; but the remaining *tāluks* are damp and malarious from June to January, when fevers and lung diseases prevail. From February till the beginning of the rains the climate is generally good. It is very hot in summer, the temperature rising to 112° in the month of May. The annual rainfall during the twenty-one years ending 1901 averaged 29 inches. The heaviest fall, 49 inches, was registered in 1893.

History.

The District originally formed a portion of the ancient kingdom of the Andhra kings, who subdued the whole of the Deccan. For nearly two hundred years, from the middle of the twelfth century, it formed part of the territories of the Kākatīyas or Ganpatis of Warangal. Proda Rājā is said to have captured the Chālukya king, Taila III, and to have warred successfully against other kings. His son Rudra I extended his possessions, while Rājā Ganpati claims to have defeated the king of Kalinga and to have had the kings of Southern Gujarāt and Bengal as his vassals, ruling as far south as the Nellore District of Madras. Ganpati was succeeded by his wife or daughter Rudramā Devī, about 1257, who is mentioned as the ruler of the country by Marco Polo. The Muhammadans invaded and partially subdued the country in 1303, but had to retire. In 1310 Warangal was again besieged by Malik Kāfūr, Alā-ud-dīn's general; and Rudra Deva II, the Hindu ruler, submitted. In 1321 Ulugh Khān, afterwards Muhammad bin Tughlak, was made ruler of the Deccan, and after an unsuccessful attempt captured Warangal with the aid of fresh troops and sent Rudra Deva as a prisoner to Delhi. The last Kākatīya was Vīrabhadra, who succeeded about 1325, and is said to have retired to Kondavīd, after which the family is heard of no more. After the collapse of the Saiyid dynasty at Delhi, Alā-ud-dīn Hasan, the first Bahmani king (1347), compelled the Hindu Rājā of Warangal to pay him the tribute which had hitherto been paid to Delhi. In 1422 Warangal was finally captured by the Bahmani troops, and on the break-up of that kingdom it fell to the Kutb Shāhis of Golconda.

Among the archaeological remains in the District may be mentioned the thousand-pillared temple of HANAMKONDA, built in 1162 in the Chālukyan style by the last Hindu dynasty. It consists of three spacious detached halls with a portico supported by about 300 pillars. Opposite the portico is a star-shaped *mandapa* supported on 200 pillars. Three of the pillars have inscriptions in Old Telugu and Sanskrit. In the neighbourhood are several Jain figures cut in the rocks, close to the ruined town of Hanmantgiri. The fort of WARANGAL was commenced by Ganpati Rājā and completed by his widow. The eastern and western gates, as well as various pillars, are covered with inscriptions in Old Telugu and Sanskrit. In the Parkāl *tāluk*, Rāmappa's temple, 40 feet square and 40 feet high, is built of black basalt and exquisitely carved. The ancient fort of Khammamett is said to have been built 900 years ago, and was captured by Sultān Kuli Kutb Shāh of Golconda in 1516. It contains several guns of a much later period. The fort of Zafargarh, the ancient Valabgonda, in the Vardannāpet *tāluk*, has two stone walls and seven bastions, containing 16 guns.

Population.

The number of towns and villages in the District, including *jāgīrs*, is 1,491. Its population at each Census in the last twenty years was: (1881) 675,746, (1891) 853,129, and (1901) 952,646. The towns are YELLANDLAPĀD, HANAMKONDA, the District head-quarters, and HASANPARTI. The population of Yellandlapād consists chiefly of miners working in the Singareni coal-mines. More than 94 per cent. of the population are Hindus, and about 86 per cent. speak Telugu. The following table gives the chief statistics of population in 1901:—

Tāluk.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Mahbūbābād	536	...	130	90,336	168	+ 23·1	Not available.
Pākhāl	1,270	...	192	38,501	30	+ 6·3	
Yellandlapād	488	1	51	42,811	88	+ 17·3	
Pāloncha	331	...	41	12,652	38	− 4·4	
Khammamett	850	...	182	146,083	172	+ 0·2	
Madhra	730	...	159	89,616	123	+ 11·9	
Cherial	417	...	101	84,301	202	+ 15·9	
Vardannāpet	536	...	112	92,772	173	+ 20·5	
Parkāl	604	...	112	81,026	134	+ 13·7	
Warangal	557	2	140	124,115	229	+ 12·7	
Jāgīrs, &c.	3,410	...	268	150,433	44	+ 11·7	
District total	9,729	3	1,488	952,646	98	+ 11·6	26,736

In 1905 Vardannāpet was divided between Warangal and Chirial; Chirial and the Kodār sub-*tāluk* were transferred to Nalgonda District,

and Parkāl to Karīmnagar, formerly Elgandal. Pākhāl has been divided into two portions, the northern forming the new *tāluk* of Tārvai. Madhra will henceforth be known as Kallūr, after its headquarters. The District in its present form comprises 8 *tāluks*—Warangal, Pākhāl, Tārvai, Khammamett, Yellandlapād, Mahbūbābād, Kallūr, and Pāloncha—besides the Pāloncha *samasthān* and other large *jāgīrs*. The area of the present District is 8,305 square miles, and the population (according to the Census of 1901) 745,757.

The most numerous caste is that of the cultivating Kāpus, numbering 151,700, or about 16 per cent. of the total population, the most important divisions among them being the Mutrāsi (31,000) and Motāti Kāpus (22,000). Next in point of numbers come the Dhangars or shepherds (106,000), the Mādigas or leather-workers (99,900), the Brāhmans (79,600), the Mālas or village menials (58,100), the Gaundlās or toddy-drawers (57,500), the Koyas, a forest tribe (46,400), the Lambādas or grain-carriers (41,000), the Sālas or weaver caste (39,700), the Komatis or trading caste (35,600), and the Chākalas or washermen (31,000). The Mādigas and Mālas also work as field-labourers. The total population engaged in and supported by agriculture is 367,000, or more than 38 per cent. of the total.

Three missions have been established in the District: one by the American Baptists at Hanamkonda, another by the Church of England at Khammamett, and the third by the Methodists at Yellandlapād. The total number of native Christians returned at the Census of 1901 was 1,457, of whom 629 were of the Church of England, 236 Methodists, and 511 Roman Catholics, the Baptists numbering only 81.

Agriculture.

The soils consist of *masab*, *kharab*, *chalka*, and *regar* or black cotton soil. In the Mahbūbābād, Khammamett, Kallūr (Madhra), Yellandlapād, Pāloncha, and Pākhāl *tāluks*, *regar* predominates, in which *rabi* crops are extensively grown; while the *chalka* lands are more common in the Warangal, Parkāl, Chirial, and Vardannāpet *tāluks*, with a sprinkling of *regar*. 'Wet' cultivation is supplied by tanks, wells, and channels.

The tenure of lands is *ryotwāri*. The *khālsa* lands had an area of 6,319 square miles in 1901, of which 2,427 were cultivated, while cultivable waste and fallows occupied 644 square miles, forests 2,370, and 878 square miles were not available for cultivation. The staple food-crops are *jowār*, rice, *bājra*, and maize, the areas under these being 854, 247, 250, and 212 square miles respectively. Cotton is grown to a small extent in all *tāluks*, the total area under it being only 32 square miles. Other crops are oilseeds (219 square miles) and pulses (92 square miles). In 1903–4 the total cultivated area was 2,555 square miles.

There are two special breeds of cattle in the District. The Khammamett and Madhra breeds much resemble the Mysore cattle, being of a superior kind and of large size. The Telingāna cattle are found chiefly in the Parkāl and Pākhāl *tāluks*; they are small and hardy, and white in colour, only the tip of the tail being black. They are chiefly bred and used by the Banjārās, and roam in large droves through the forest tracts and waste lands, where plenty of pasture is found. The Khammamett and Madhra cattle fetch as much as Rs. 200 to Rs. 250 per pair. A breed of sheep in Madhra, of a reddish colour and large size, is very different from the ordinary black sheep of the country. The ponies are of no particular excellence.

The irrigated area in 1903–4 was 326 square miles, supplied by 1,433 large tanks, 3,826 *kuntas* or smaller tanks, 10,797 wells, and 89 channels. There are several large tanks in the District, the chief being the Pākhāl, Laknāvaram, Rāmappa, Ghanpur, Katāchpūr, Atmākūr, Dharmasāgar, and Yelgargū tanks; but some of these are in disrepair.

Forests.

There are extensive forests in this District, the area 'reserved' being 2,370 square miles, while 2,000 square miles are not protected. The forests contain teak (*Tectona grandis*), ebony (*Diospyros melanoxylon*), *shīsham* (*Dalbergia Sissoo*), satin-wood (*Chloroxylon Swietenea*), sandal-wood (*Santalum album*), *bhandārā* (*Adina cardifolia*), *tirman* (*Anogeissus latifolia*), *eppa* (*Hardwickia binata*), *chinnangi* (*Lagerstroemia parviflora*), *kodsha* (*Cleistanthus collinus*), *bījāsāl* (*Pterocarpus Marsupium*), *mokāb* (*Schrebera swietenioides*), *somi* (*Soymida febrifuga*), *nallāmaddi* (*Terminalia tomentosa*), *sandra* (*Acacia Catechu*), and bamboo. The revenue derived from the sale of timber in 1901 was Rs. 68,775, and from other forest products R. 46,165, making a total of 1·1 lakhs.

Minerals.

Among the more important minerals of the District may be mentioned coal, garnets, iron ore or haematite, steatite, and building stones. The coal-mines, situated near SINGARENI in the Yellandlapād sub-*tāluk*, are worked by the Hyderābād (Deccan) Mining Company, giving employment to 8,000 miners. The output in 1904 was 419,546 tons, a large proportion of which was sent to Bombay and Madras. The royalty paid to the State is 12 annas per ton. The coal is worked on the stall and pillar system, and the mines are supplied with machinery of the latest type. Talc is found in the Kallūr (Madhra) and Khammamett *tāluks*, and laminated limestone in Khammamett, while corundum and garnets occur in Pāloncha.

The District is noted for some of its manufactures. Hanamkonda is celebrated for its silk and other cloths, such as cotton tweeds and coloured shirtings largely used for coats and shirts; and also for its

carpets. In Mathwādā, Karīmābād, and Warangal cotton, silk, and woollen carpets of excellent make are turned out, in which a large trade is done with Europe. In Parkāl also carpets and *shatranjīs* of very superior quality are made, the price of the cotton ones ranging from Rs. 1-4 to Rs. 4-8 per square yard, and that of silk *shatranjīs* from Rs. 60 to Rs. 150 per square yard. *Tasar* silk is largely spun from cocoons. The Koyawārs rear the worms, and when the cocoons are ready they are boiled and the silk so obtained is sold to the weavers. *Sārīs*, *cholīs*, turbans, handkerchiefs, and other products of *tasar* silk are made at Parkāl, Jokalva, Hasanparti, and other places. Besides these, ordinary coarse cotton cloth and *dhotīs* and *sārīs* are manufactured everywhere for local use. Hides and skins are salted and sent to Madras by Labbais. There are four cotton-ginning factories and four oil-mills in the District, employing altogether 132 hands. The total weight of cotton cleaned in 1901 was 714 tons, and the weight of oil expressed 131 tons.

Trade and communications.

The main exports consist of rice, wheat, *jowār* and other food-grains and pulses, cotton, tobacco, sesamum, castor-seed, carpets, *shatranjīs*, silk and cotton cloths, *sārīs* and *dhotīs*, hides and skins, and *san*-hemp. The chief imports are salt, refined sugar, betel-nuts, spices, opium, silver and gold, copper and brass, kerosene oil, and matches. Trade is mainly with the adjoining Districts; but cotton is sent to Aurangābād, Hyderābād, Gulbarga, and also to Madras and Bombay, and the hides are sent mostly to Madras. The most important centre of trade is Mathwāda near Warangal, and next to it the village of Khammamett. The castes engaged in trade are principally Komatis, Mārwāris, Memons from Bombay, and Labbais from Madras. The Komatis also do a large banking business.

The Nizām's Guaranteed State Railway traverses the District from Jangaon in the west, through Kāzīpett and Warangal, to Yerrupālayam in the east, a distance of 146 miles, with 17 stations within the District, besides the mineral line, 16 miles long, from Dornakal to Yellandlapād, making a total of 162 miles.

There are 212 miles of gravelled roads, all maintained by the Public Works department. Hanamkonda, the head-quarters of the District, is connected with all the *tāluk* head-quarters by means of roads. Since the construction of the railway the traffic on some of these has diminished, but most of them serve as feeders.

The effects of the famines of 1862, 1866, 1877-8, and 1900 were felt in this District, though far removed from the area of actual distress. In 1900, Rs. 5,000 was sanctioned for affording relief to the poor. Owing to its extensive forests and numerous tanks and wells, Warangal has been fairly free from serious famine.

The District is divided into three subdivisions, each under a Second Tālukdar. The first consists of the Mahbūbābād, Tārvai, and Pāloncha *tāluks*; the second consists of the Khammamett, Kalūr (Madhra), and Yellandlapād *tāluks*; and the third of Warangal and Pākhāl. Each *tāluk* is under a *tahsīldār*, except the sub-*tāluk* of Yellandlapād, which has a *naib-tahsīldār*. The First Tālukdār exercises a general supervision over the work of his subordinates.

Administration.

The District civil court is presided over by a civil judge, styled the *Adālat Madadgār* or Judicial Assistant. There is also a Munsif's court at Hanamkonda, and eleven subordinate courts, the former presided over by the Munsif and the latter by the *tahsīldārs* and *naib-tahsīldār*. The First Tālukdār is the Chief Magistrate and the civil judge is a Joint-Magistrate, exercising his powers during the absence of the First Tālukdār from head-quarters. The Second and Third Tālukdārs exercise second-class, and the *tahsīldārs* third-class magisterial powers. Serious crime is not heavy in ordinary times. As Hanamkonda is the head-quarters of the Division, the Sūbahdār and the Divisional Judge also hold their courts here.

Little is known of the revenue history. Prior to the formation of regular Districts in 1866, villages were farmed out at fixed sums, and the revenue was collected in cash. The survey of the District was completed in 1904, when the *tāluks* were settled for fifteen years. It was found that the area included in holdings was 814 square miles more than that shown in the old accounts, or a total of 1,913 square miles, while the land revenue was raised from 20·6 to 26·1 lakhs, or by about 27 per cent. The average assessment on 'dry' land is Rs. 1-11-2 (maximum Rs. 3, minimum R. 0-9); and on 'wet' land Rs. 11-8-7 (maximum Rs. 20, minimum Rs. 7-8).

The land revenue and the total revenue for a series of years are shown below, in thousands of rupees:—

	1881.	1891.	1901.	1903.
Land revenue . .	10,97	17,23	21,86	18,16
Total revenue . .	13,99	21,77	28,33	23,71

Owing to the changes of area effected in 1905, the revenue demand is now about 16·1 lakhs.

In 1899 a one-anna cess was levied and local boards were established. There is a District board at Hanamkonda, which supervises the working of the *tāluk* boards. The First Tālukdār is the president of the District board and the *tahsīldārs* are chairmen of the *tāluk* boards. At Hanamkonda there is a municipality; and each of the *tāluk* head-quarters has a small conservancy establishment, the District and *tāluk* boards

managing the municipalities as well. The total expenditure in 1901 on local works and roads amounted to Rs. 42,600.

The First Tālukdār is the head of the police administration, with the *Mohtamim* (Superintendent) as his executive deputy. Under him are 10 inspectors and 124 subordinate officers, 728 constables, and 25 mounted police, distributed among 36 *thānas* and 45 outposts. The Central jail lies between Hanamkonda and Mathwādā, and has accommodation for 707 male and 20 female prisoners. Convicts from Karīmnagar and Nalgonda Districts, whose sentences exceed six months, are received here. In 1901 there were 1,207 male and 13 female convicts in the Central jail. Carpets and *shatranjīs* of a superior quality are made here, besides furniture, cotton tweeds, counterpanes, towels, and other cloths for prison and police use. The jail products are also sold to the local traders.

Warangal takes a medium place as regards the literacy of its population, of whom 2·8 per cent. (5·2 males and 0·23 females) were able to read and write in 1901. The total number of pupils under instruction in 1881, 1891, 1901, and 1903 was 429, 2,891, 4,247, and 4,258 respectively. In 1903 there were 74 primary, 3 middle schools, one high school, and one industrial school, with 360 girls under instruction. The total amount spent on education in 1901 was Rs. 35,700, of which the State paid Rs. 24,700 and the local board Rs. 11,000, including Rs. 1,824 paid to aided schools. The fees realized at the State and board schools were Rs. 1,568 and Rs. 555 respectively. The amount realized by the aided schools as fees and subscriptions in 1901 was Rs. 1,359.

A large dispensary is maintained at Hanamkonda, and there are 8 others in the *tāluks*, with accommodation for 77 in-patients, besides two *yunāni* dispensaries. In 1901 the total number of cases treated was 50,862, of whom 217 were in-patients; and the number of operations performed was 1,675. The total expenditure was Rs. 16,700, of which the local board contributed Rs. 6,000.

The number of persons successfully vaccinated in 1901 was 1,600, representing 1·67 per 1,000 of population.

Warangal Tāluk.—*Tāluk* in Warangal District, Hyderābād State, with an area of 773 square miles. The population in 1901, including *jāgīrs*, was 142,751, compared with 126,604 in 1891. The *tāluk* contains two towns, HANAMKONDA (population, 10,487), the Division, District, and *tāluk* head-quarters, and HASANPARTI (5,378); and 161 villages, of which 21 are *jāgīr*. The commercial town of Mathwādā, which is a suburb of Hanamkonda, is 4 miles east of the latter, and the fort of WARANGAL is about 4 miles sonth-east of Hanamkonda. The land revenue in 1901 was 3·3 lakhs. In 1905 the *tāluk* was considerably altered by the transfer of villages to Mahbūbābād and

Pākhāl, and by the addition of part of the former *tāluk* of Vardannāpet. Rice is largely raised by tank-irrigation. The Nizām's Guaranteed State Railway passes through the *tāluk.*

Warangal Village.—Ancient town in Warangal District, Hyderābād State, situated in 17° 58′ N. and 79° 37′ E., on the Nizām's State Railway, 86 miles north-east of Hyderābād city. Population (1901), 4,741. The place was founded in the twelfth century by Prodarājā of the Kākatīya dynasty; but some identify it with Worakalli, the capital of the Adeva Rājās of Teluva Andhra or Telingāna in the eighth century. Warangal or Varanakal is believed to be the Korun Kula of Ptolemy, while another name is Akshalingar, evidently the Yeksilanagar or Yeksilapatan mentioned by Raghunāth Bhāskar in his *Aravachan Kosh.* Ganpati, the grandson of Prodarājā, commenced the stone wall of Warangal, which was completed by his widow or daughter, Rudramā Devī, who also surrounded it with an outer mud wall, about the middle of the thirteenth century. The place is about 1,050 feet above the level of the sea, and lies on the watershed separating the basins of the Godāvari and Kistna in the lower part of their course. The surrounding country consists of large undulating plains of reddish sandy loam and black soil, broken here and there by piles of huge granite boulders and basaltic dikes. The extent of the fort and town may be gathered from the fact that the 'dry' cultivated lands within the outer wall yield a revenue of Rs. 5,000. The city was of considerable size in the days of its prosperity, including the present sites of Hanamkonda, Mathwādā, Karīmābād, and Warangal proper, while Mathwādā alone consists of a group of five villages: Mathwādā, Rāmannāpet, Girmājīpet, Bālānagar, and Govindāpur.

Warangaum.—Town in Khāndesh District, Bombay. *See* VARANGAON.

Wārcha.—Salt mine in the Khushāb *tahsīl* of Shāhpur District, Punjab, situated in 32° 25′ N. and 71° 58′ E., near the mouth of the Wārcha gorge, about 1½ miles west of the village of Wārcha. The mine now worked adjoins an old Sikh mine which became unsafe and had to be abandoned. The seam of salt is the same in both, and is 20 feet thick. The new mine is being worked on the same system as the MAYO MINE. The quality of the salt is very good; but being 9 miles from the nearest railway station (Gunjiāl on the Sind-Sāgar branch of the North-Western Railway), Wārcha cannot compete with the Mayo Mine. The salt is consumed in the neighbouring Districts, and finds a good sale in Multān, whither it is sent by train, and at Khushāb on the Jhelum, whence it is distributed chiefly by river. The miners deliver it at the mouth of the mine at the rate of Rs. 3-12 per 100 maunds. In 1903-4 the quantity sold amounted to 123,000 maunds.

Wardhā District.—District in the Nāgpur Division of the Central Provinces, lying between 20° 18′ and 21° 22′ N. and 78° 3′ and 79° 14′ E., and occupying the west of the Nāgpur plain, at the foot of the Sātpurā Hills adjoining Berār, with an area of 2,428 square miles. It is bounded on the north by Amraoti District; on the west by the Amraotī and Yeotmāl Districts of Berār; on the south by Chānda; and on the east by Nāgpur. It consists of a long strip of land extending from north-west to south-east along the right bank of the Wardhā river, from which the District takes its name, very narrow at its northern extremity and gradually increasing in width towards the south.

Physical aspects.

An outlying spur of the Sātpurā range runs down through the north of the District, and most of the Arvī *tahsīl*, with the exception of a strip along the bank of the Wardhā, is hilly country. The central and southern portion is an undulating plain, intersected by streams, and broken here and there by isolated hills, rising abruptly from its surface. The open country is in parts well wooded, but over considerable areas is scantily furnished with trees other than the *babūl* (*Acacia arabica*); and as the detached hills are generally bare and stony, the landscape presents a somewhat desolate and bleak appearance. The villages, generally situated on slightly elevated ground to enable water to drain off in the rains, consist of clusters of small red-tiled houses, often overtopped by the ruins of a mud fort, a relic of the period of Pindāri raids. Owing to the absence of the sandstone formation, good building stone and gravel are very rare; stone buildings are seldom found outside the towns, while from the commencement of the rainy season the village roads become impassable sloughs of mud. The courses of the smaller streams are frequently marked by lines or clumps of bastard date-palms (*Phoenix sylvestris*), the favourite lair of wild hog. In the north the hill ranges are clothed with young teak and other timber, and this is almost the only regular forest to be found in the District. The hills generally do not rise more than 400 feet above the level of the plain, but towards the south of the range are the peaks of Mālegaon (1,615 feet above sea-level), Nāndgaon (1,760 feet), and Garamsur (1,976 feet). Wardhā town is about 930 feet above the sea. The only considerable river is the WARDHĀ, which forms the northern and western boundary of the District, and is crossed by the railway at Pulgaon. Other streams are the Wunnā, the Bor, the Dhām, and the Asodā. These, rising in the northern hills, flow down the length of the District to join the Wardhā towards its southern extremity. But as their whole course is so short, none of them attains to much importance. The Bor and the Dhām are affluents of the Wunnā; and this river, which passes Hinganghāt, ranks next to the Wardhā in size.

The District is covered by the Deccan trap. The stratification is regular and continuous, and the angle of inclination generally small. The effect of this regularity is seen in the flat tops of the hills and in the horizontal terraces which their sides present. At Hinganghāt and Girar a fresh-water stratum may be traced, and silicified wood and zeolitic amygdules occur.

The forests are very scanty, and are situated principally in the north of the Arvī *tahsīl* and the south-east of Hinganghāt. Arvī has some teak forest, and the other principal timber trees are *anjan* (*Hardwickia binata*) and *sāj* (*Terminalia tomentosa*). The usual fruit-bearing and sacred trees, such as the banyan, tamarind, *nīm* (*Melia Azadirachta*), and *pīpal*, are planted round the villages.

There is little forest game. Antelope are fairly numerous in the open country. Wild hog abound all over the plain, and the District is the regular country of the Nāgpur Hunt Club. Among game-birds the bustard may be mentioned, which is found in the south of the District.

The annual rainfall at Wardhā town averages 41 inches. The climate is hot and dry, but healthy. Ophthalmia is prevalent in the summer months. Leprosy was formerly a comparatively common disease, but the most recent figures show a large decrease.

History.

Very little is definitely known of the history of the District previous to the seventeenth century. Under the Mughal empire Paunār was the head-quarters of a *sarkār*, subordinate to the governor of Ellichpur, and in this territory was comprised the greater part of the south of the District. Ashtī, with the north of the District, was held by another Muhammadan family which received *sanads* from Jahāngīr and Aurangzeb. The Muhammadans penetrated into the southern portion of the Central Provinces as far as Wardhā and Chānda, though Nāgpur and the Districts east of it remained practically an unknown country during the period of their ascendancy. On the fall of the Mughal empire the greater part of the District passed under the control of the Gond Rājās of Deogarh in Chhindwāra, and its subsequent history is that of Nāgpur, which shortly afterwards became their capital. But Ashtī, with the tracts adjoining it, seems to have been incorporated in the territories of the Nizām of Hyderābād, who, after the Bhonsla conquest, continued in joint possession with the Marāthās, 40 per cent. of the revenue of the tract going to Hyderābād and 60 per cent. to the Nāgpur Rājā. Wardhā, with the rest of the Nāgpur kingdom, became British territory in 1853, and was formed into a separate District in 1862.

The archaeological remains are of slight interest, but a number of tombs and temples are objects of pilgrimage. The most important of these is the tomb of a Muhammadan saint, Khwāja Shaikh Farīd, at Girar on the eastern border of the Hinganghāt *tahsīl*. The hill which

forms the site of his tomb is covered with fossils of the shape of nutmegs, and these are supposed to have been the stock-in-trade of two Banjārās who mocked the saint, and whose wares were in consequence turned into stones. Many pilgrims, both Hindu and Muhammadan, visit Girar, especially during the Muharram festival. Keljhar, 17 miles north-east of Wardhā, is held to be the site of the city Chakranagar, which is mentioned in the Mahābhārata; a demon lived near it and took a child from the town every day for his food, until he was killed by the Pāndava brothers. Paunār (on the Dhām river, 5 miles north-east of Wardhā) was formerly a place of considerable importance, and was the seat of a Muhammadan governor. It had a fort of which one of the gateways still remains. Two handsome Muhammadan mausoleums are to be seen at Ashtī.

Population.

The population of the District at the last three enumerations was as follows: (1881) 387,221; (1891) 400,854; and (1901) 385,103. There are 906 inhabited towns and villages. Large villages are numerous, 65 places having a population of more than 1,000 persons. There are six towns—WARDHĀ, HINGANGHĀT, ARVĪ, ASHTĪ, DEOLĪ, and PULGAON—the urban population being 11 per cent. of the total. All of these except Ashtī are municipalities. The chief statistics of population in 1901 are shown below:—

Tahsīl.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Wardhā	809	3	314	152,565	188	− 3·6	6,179
Arvī	890	2	299	137,737	155	+ 4·8	5,750
Hinganghāt	729	1	287	94,801	130	− 14·9	3,043
District total	2,428	6	900	385,103	158	− 3·9	14,972

A good deal of emigration took place from Hinganghāt in 1897. On the whole, however, the population of the District gained considerably during the decade by immigration from Berār, and also from Chānda and Bhandāra. Famine and scarcity have been mainly confined to the areas in which spring crops are grown, the autumn crops of cotton and *jowār* having always yielded some return. The Arvī *tahsīl*, in which these are the sole staples, has been generally prosperous. About 86 per cent. of the population are Hindus, 10 per cent. Animists, and nearly 4 per cent. Muhammadans. About three-fourths of the Gonds in the District are returned as Animists. The statistics of language show that 79 per cent. of the population speak Marāthī; of the remainder, 13,642 persons, probably all Muhammadans, speak Urdū,

25,710 (principally Brāhmans and Rājputs who have come from Northern India) Hindī, 39,385 Gondī, and 2,428 Telugu.

The principal landholding castes are Marāthā Brāhmans and Kunbīs. Brāhmans (10,000) constitute 3 per cent. and Kunbīs (76,000) 20 per cent. of the population. The leading Brāhman families generally hold the title of Deshpāndia, and the Kunbīs that of Deshmukh. The *deshmukh* was an officer who under the Gonds was responsible for the settlement of revenue and its collection from the headmen of a circle of villages, and the *deshpāndia* or head *patwāri* kept the revenue accounts of the same circle. The principal cultivating castes are Kunbīs, Telis (39,000), and Mālis (17,000), Telis being considered the most efficient. Gonds number 40,000, or about 10 per cent. of the population. They live in the open country and are generally fairly civilized. There are very few Gond landowners, but numbers of them are tenants and farm-servants; and they are also employed as factory hands, constables, and forest guards. The Kolams are a small tribe akin to the Gonds, found in the Arvī *tahsīl*, who speak a dialect of Gondī with an admixture of Telugu. About 75 per cent. of the population of the District are dependent on agriculture.

Christians number 146, of whom 62 are Presbyterians and 39 Roman Catholics. The total includes 100 native Christians. The United Free Church of Scotland has a mission station in Wardhā town.

Agriculture.

Nearly the whole area of the District consists of a thin covering of black or dark brown soil over a sheet of trap rock. This soil varies in depth from 10 feet to a few inches, the average thickness being about 2 feet. The best black soil is found principally in the level ground along the left bank of the Wardhā river. In the hilly country of the north shallow brown soil is found mixed with sand.

More than 120 square miles are held wholly or partially free of revenue, and 2,984 acres have been sold outright under the Waste Land Rules. The principal statistics of cultivation in 1903-4 are shown below, with areas in square miles:—

Tahsīl.	Total.	Cultivated.	Irrigated.	Cultivable waste.	Forests.
Wardhā	809	629	1	87	4
Arvī	890	472	2	89	180
Hinganghāt	729	540	½	141	17
Total	2,428	1,641	3½	317	201

The occupied area is extremely large, amounting to 81 per cent. of the total, excluding Government forest. The largest proportion of unoccupied land is in the Arvī *tahsīl*, where one-third of the proprietary area is waste. Over most of the District the limit of cultivation

has been reached. Cotton and *jowār* (*Sorghum vulgare*) are now the staple crops, covering 573 and 454 square miles respectively. About 160 square miles are devoted to wheat and 128 to linseed. The crops for the spring harvest are grown principally in the Hinganghāt *tahsīl* and the southern part of Wardhā, and only to a small extent in Arvī. A noticeable feature of the recent statistics is the substitution of autumn for spring crops, the area under cotton and *jowār* grown separately and with an admixture of the pulse *arhar* having increased from 52 to 66 per cent. of the total in the last few years. This is partly to be attributed to the succession of poor wheat harvests, and more particularly to the high price of cotton and the large profits which are obtained from its cultivation. The area under linseed (128 square miles) is larger in Wardhā than in any District of the Provinces except Nāgpur, Raipur, and Bilāspur. As this crop is adversely affected by damp more often than by drought, the soil and climate of Wardhā are favourable to its growth. *Jowār* has now replaced wheat as the staple food of all except the richest classes. Rice is sown on a very small area, chiefly in the Girar *pargana* of Hinganghāt. There is scarcely any sugar-cane. Garden crops cover about 2,500 acres, and irrigation is practically confined to these. Turmeric (*haldī*) is cultivated in the Hinganghāt *tahsīl*, especially at Waigaon, called Haldiā Waigaon on this account, where a large irrigation tank has been constructed. The District has a number of orange and banana plantations; the bananas of Arvī have some reputation; betel-vine gardens exist in Ashtī and Jalgaon.

At the present time the area under the valuable cotton crop is increasing annually, while more care is expended on its cultivation than formerly, and manure is applied to it whenever obtainable. The three-coultered sowing drill and the weeding hoe-plough of the Deccan are generally used in Wardhā, and some improvement has been made in their construction. Fodder-cutting machines recently introduced by the Agricultural department are considered to double the value of *jowār* fodder, and several landowners have purchased them. The Hindī agricultural gazette published by the department has a considerable circulation in Wardhā, and some landowners have sent their sons to the agricultural training school at Nāgpur. A total of Rs. 31,000 was advanced under the Land Improvement Loans Act during the decade ending 1904, from which a large number of new wells have been constructed and a few field-embankments made. Nearly 3 lakhs was given out in agricultural loans during the same period, about half of this sum having been advanced in the famine of 1900.

Cattle are bred all over the District and principally in the Arvī *tahsīl*. Special bulls are kept for breeding by all well-to-do cattle-owners. The cattle trot well, and are generally white, and of moderate size, being larger than those of the hill Districts, but smaller than the Berār

breeds. Cattle are also imported from Maheer in Hyderābād and from Berār, Hyderābād bullocks being the most expensive. Good milch cows are bred in Arvī, which sometimes give as much as 7 to 8 seers (14 to 16 lb.) of milk; but the people make no use of cow's milk, as they realize that the calves are weakened if deprived of it. Buffaloes are also bred for manufacturing *ghī*. They are not used for draught purposes except on the Wardhā river, where they are employed to carry water. The young bulls are sold in the rice Districts, or sometimes killed at birth by professional cattle-breeders. Goats and sheep are kept by Dhangars, who slaughter the goats for food, and make rough blankets from the wool of the sheep. A few cultivators have also begun to keep them for their manure.

There are about 700 permanent and 800 temporary wells, which irrigate 2,400 acres. The ordinary level of the subsoil water is 40 feet below the surface, and wells are very costly, as blasting is usually necessary. Little or no scope exists for remunerative irrigation works.

The forests of the District cover an area of 201 square miles, being situated principally in the Arvī *tahsīl* with a small block in the south-east of Hinganghāt. There is some teak forest in Arvī. Bamboos are very rare. Though the forests are small and not valuable, the large local demand for produce causes a substantial revenue to be derived from them. This amounted in 1903–4 to Rs. 39,000, of which Rs. 12,000 was realized from sales of timber, Rs. 9,000 from fuel, and Rs. 16,000 from grazing.

Wardhā contains no minerals. The black basalt supplies a stone which is used for building; but it is extremely hard and difficult to dress, and hence is seldom employed for ornamental building. Quarries are worked at Saongī, Borgaon, Nāchangaon, and Tuljāpur.

Trade and communications.

Cotton-weaving and dyeing are practically the only hand industries, and these are rapidly being destroyed by the competition of the mills. Nearly all large villages still, however, contain a number of Koshtīs, who produce rough country cloth, obtaining their yarn from the mills; while in a few places the dyeing of women's *sārīs* and cotton carpets with imported dyes affords a precarious sustenance to members of the usual dyeing castes. Coarse tape for bedsteads is woven from home-spun thread by Gārpagāris, who have been compelled by lack of custom to abandon their ancestral calling of the protection of the crops from hail; and hemp matting and bags are made by the caste of Bhāmtas, who grow the hemp themselves, as no other Hindu caste will consent to do so. The Bhāmtas were formerly notorious thieves, and it was said that no girl of the caste accepted a suitor until he had been arrested not less than fourteen times, when she considered that he had attained to man-

hood; but they have now settled down to this more legitimate avocation. Pārdi is a centre of hemp (*san*) cultivation.

With the expansion of the cotton trade, ginning and pressing factories have recently been constructed in large numbers, and new ones are opened every year. Hinganghāt has a spinning and weaving mill, and a second spinning mill, while another spinning mill has been opened at Pulgaon. These mills contain altogether 325 looms and 63,040 spindles, and represent about 24·5 lakhs of capital. Their out-turn in 1904 was 61,128 cwt. of yarn and 10,272 cwt. of cloth, most of which was disposed of in Berār and the Central Provinces. The District also contains 39 ginning factories with 1,065 gins and 16 cotton-presses, distributed among the towns and larger villages. The aggregate capital invested in these factories is 26·23 lakhs, and their annual profits were estimated at 3·4 lakhs in 1904. Most of them are owned by Mārwāri Baniās, and a few by Marāthā Brāhmans and others. The ginning and pressing factories only work for four or five months in the year. Twenty-six of these factories have been opened within the last five years.

Cotton, wheat, and linseed are the staple exports of the District. Cotton-seed has lately been exported to Europe. In good years a little *jowār* is sent to Bhandāra, and *arhar* to Calcutta for consumption in Bengal. Hides are sent both to Bombay and Calcutta, and skins to Madras, where they are cured before being shipped to Europe. Yarn and cotton cloth are supplied by the mills of Hinganghāt and Pulgaon to other Districts of the Province and to Cawnpore. There is little or no surplus of forest produce; small teak timber from the Arvi forests is sent to Berār, but it is also imported into the District from Betūl. Small quantities of plantains are exported from Arvī. Cotton piece-goods are obtained from Europe through Bombay and Calcutta, and from the Nāgpur and Cawnpore mills. Silk cloths are imported from Umrer and Hyderābād. The salt used is sea-salt from the Thāna District of Bombay. Sugar comes from the Mauritius, and also from Mirzāpur; but the latter is the more expensive, and is consumed by the richer classes. *Gur* or unrefined country sugar is brought from Bangalore, and also from Poona District and Kolhāpur State. Potatoes are obtained from the United Provines and Chhindwāra. Brass vessels are imported from Bhandāra, and from Poona and Nāsik, and glass bangles from Bombay. Berār wheat is consumed in the Arvī *tahsīl*, and rice is brought from Bhandāra and Chhattīsgarh into the District generally. About 25 per cent. of the export grain trade is in the hands of a European firm, and the remainder is managed by Mārwāri Baniās and Muhammadan Cutchīs. The Cutchīs export grain, and import salt, sugar, and groceries for retail sale. The *ghī* trade is in the hands of Mārwāri Baniās, and that in yarn and cloth is divided between

them and Madrasi Komatis. Hides and bones are exported by Madrasi Muhammadans.

The Great Indian Peninsula Railway line from Bhusāwal to Nāgpur runs through the centre of the District, having a length of 40 miles and 6 stations within its limits. There is also a branch line from Wardhā junction to Warorā, with a length of 30 miles in the District, and the stations of Sonegaon and Hinganghāt. The chief feeder roads are those leading from Arvī and Deolī to Pulgaon, from Deolī, Khārangna, and Sailū to Wardhā, from Hingnī to Sindī, and from Pohnā and Samudrapur to Hinganghāt. The District has 48 miles of metalled and 136 of unmetalled roads, and the annual expenditure on maintenance is Rs. 25,000. The Public Works department maintains 123 miles of road, and the District council 60 miles. There are avenues of trees on 39 miles.

Famine.

In 1832-3 heavy rain in the cold-season months made the autumn crops rot on the threshing-floors, and blighted the spring harvest, causing severe distress and heavy mortality. In 1868-9 Wardhā was not acutely distressed, and, as the construction of the railway was in progress, the demand for labour was ample. Again, in 1896-7, the District obtained half a normal harvest, and such distress as occurred was due to the high price of grain. In 1899-1900, owing to the complete failure of the rains, the crop obtained was only a quarter of normal, and this followed a poor harvest in the previous year. Distress was acute, and relief measures continued for fourteen months, 103,000 persons, or nearly 26 per cent. of the population, being in receipt of assistance in July, 1900. The total expenditure was 20 lakhs. Besides road works, some tanks were constructed and improved, and many wells were deepened.

Administration.

The Deputy-Commissioner has a staff of three Assistant or Extra-Assistant Commissioners. For administrative purposes the District is divided into three *tahsīls*, each of which has a *tahsīldār* and a *naib-tahsīldār*. The District is included in the Nāgpur Forest and Public Works divisions, and has no separate Forest officer or Executive Engineer.

The civil judicial staff consists of a District and three Subordinate Judges, two Munsifs at Wardhā, and one each at Arvī and Hinganghāt. The Divisional and Sessions Judge, Nāgpur Division, has civil and criminal jurisdiction in Wardhā. A common form of offence is that of theft of ornaments from the body of persons asleep. Much jewellery is worn, as the people are well-to-do, and it is a general practice to sleep in the open. The civil litigation is heavy, and, owing to the value of land, disputes affecting insignificant areas are not infrequently carried to the highest courts.

Up to 1862 Wardhā formed part of Nāgpur District, and no separate

account of its revenue administration need be given. A thirty years' settlement was made between 1862 and 1866, at which proprietary rights were conferred. The revenue was fixed at 4·16 lakhs, which was practically the same as that existing before revision, and represented 79 per cent. of the 'assets,' the proportion taken by the Marāthās having always been very high. During this settlement the District prospered greatly. The increase in cultivation was nearly 18 per cent., while the prices of agricultural produce rose by 150 per cent. The District was reassessed between 1891 and 1894 for a term varying from sixteen to eighteen years. The demand was raised to 6·64 lakhs, which fell at 59½ per cent. on the 'assets,' and was an increase of 25 per cent. on the previous assessment. The average incidence of the revenue per acre is R. 0-10-2 (maximum Rs. 1-4-5, minimum R. 0-5-2), while that of the rental is R. 0-15 (maximum Rs. 1-15, minimum R. 0-7-4).

The collections of land and total revenue for a series of years are shown below, in thousands of rupees :—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	5,14	5,20	6,72	6,42
Total revenue . .	8,81	10,57	10,71	11,53

Local affairs outside municipal areas are entrusted to a District council and three local boards, each having jurisdiction over one *tahsīl*. The income of the District council in 1903-4 was Rs. 79,000; and the expenditure included Rs. 22,000 on education, Rs. 20,000 on public works, and nearly Rs. 10,000 on medical relief. WARDHĀ, ARVI, HINGANGHĀT, DEOLĪ, and PULGAON are municipal towns.

The force under the District Superintendent of police consists of 392 officers and men, including 3 mounted constables, besides 1,228 village watchmen for 906 inhabited towns and villages. The District jail has accommodation for 81 prisoners, including 8 females. The daily average number of prisoners in 1904 was 57.

In respect of literacy the District stands seventh in the Province, 3·9 per cent. of the population (7·6 males and 0·2 females) being able to read and write. The percentage of children under instruction to those of school-going age is 12. Statistics of the number of pupils in schools are as follows: (1880-1) 3,685, (1890-1) 5,296, (1900-1) 5,878, (1903-4) 6,704 including 159 girls. The educational institutions comprise 4 English middle schools, 8 vernacular middle schools, and 88 primary schools. There are girls' schools at Wardhā, Hinganghāt, and Arvī. The expenditure on education in 1903-4 was Rs. 36,000, of which Rs. 31,000 was derived from Provincial and Local funds, and Rs. 4,700 from fees.

The District has 10 dispensaries, with accommodation for 85 in-patients. In 1904 the number of cases treated was 102,991, of whom 448 were in-patients, and 2,372 operations were performed. The expenditure was Rs. 14,000. A veterinary dispensary has also been opened at Wardhā town.

Vaccination is compulsory only in the municipal towns of Wardhā, Hinganghāt, Arvī, and Deolī. The number of persons successfully vaccinated in 1903–4 was 47 per 1,000 of the population. A considerable degree of protection has now been attained in this respect.

[Rai Bahādur Purshotam Dās, *Settlement Report* (1895); R. V. Russell, *District Gazetteer* (1906).]

Wardhā Tahsīl.—Head-quarters *tahsīl* of Wardhā District, Central Provinces, lying between 20° 30′ and 21° 3′ N. and 78° 15′ and 78° 56′ E., with an area of 809 square miles. The population in 1901 was 152,565, compared with 158,215 in 1891. The density, 188 persons per square mile, is above the District average. The *tahsīl* contains three towns—WARDHĀ (population, 9,872), the District and *tahsīl* head-quarters, DEOLĪ (5,008), and PULGAON (4,710); and 314 inhabited villages. Excluding four square miles of Government forest, 86 per cent. of the available area is occupied for cultivation. The cultivated area in 1903–4 was 629 square miles. The demand for land revenue in the same year was Rs. 2,58,000, and for cesses Rs. 25,000. The north-eastern portion of the *tahsīl* forming the Keljhar *pargana* is hilly, and the remainder is an undulating plain intersected by small streams and broken by low hills. Cotton and *jowār* are the principal crops.

Wardhā Town.—Head-quarters of the District of the same name, Central Provinces, situated in 20° 45′ N. and 78° 37′ E., on the Great Indian Peninsula Railway, 471 miles from Bombay and 49 from Nāgpur. It is also the junction for the branch line to Warorā in Chānda District. Population (1901), 9,872. Since 1872 the population has nearly trebled. The present town was founded in 1866, the site having been selected for the head-quarters of a new District, and has been carefully laid out with wide and regular streets so as to permit of expansion. It was created a municipality in 1874. The municipal receipts and expenditure during the decade ending 1901 averaged Rs. 33,000 and Rs. 34,000, respectively. In 1903–4 the income had risen to Rs. 45,000, the chief sources being road tolls, a water rate, and miscellaneous receipts. Wardhā is an important cotton mart, and contains 7 ginning and 4 pressing factories, with 164 gins and 4 presses, and a total capital of about 5 lakhs. There are four printing presses, three of which use English and Marāthī type and one Marāthī only. The water-supply is obtained from the Dhām river at a distance of 5 miles. A dam has been constructed across the river at Paunār, giving a level sheet of

water for about 6 furlongs. The water is led through artificial filter-beds of sand to an underground reservoir, and thence pumped into an elevated service-tank from which it is carried to the town. The water-works were completed in 1898 at a cost of 2·25 lakhs. A weekly cattle market is held here. Wardhā has an English middle school and a girls' school, three dispensaries, including mission and police hospitals, and a veterinary dispensary. Further public improvements to be carried out in the immediate future are the construction of a high school and hostel at an expenditure of Rs. 25,000, and a complete drainage scheme to cost Rs. 35,000.

Wardhā River.—River in the Central Provinces, which rises in the Multai plateau of Betūl District, at 21° 50′ N. and 78° 24′ E., about 70 miles north-west of Nāgpur city, and, flowing south and south-east, separates the Nāgpur, Wardhā, and Chānda Districts of the Central Provinces from Amraoti and Yeotmāl of Berār and Sirpur Tandūr of the Nizām's Dominions. After a course of 290 miles from its source, the Wardhā meets the WAINGANGĀ at Seonī in Chānda District, and the united stream under the name of the PRĀNHITA flows on to join the GODĀVARI. The bed of the Wardhā, from its source to its junction with the Pengangā at Jugād in the south-east corner of Yeotmāl, is deep and rocky, changing from a swift torrent in the monsoon months to a succession of nearly stagnant pools in the summer. For the last hundred miles of its course below Chānda, it flows in a clear channel broken only by a barrier of rocks commencing above the confluence of the Waingangā and extending into the Prānhita. The project entertained in the years 1866–71 for rendering the Godāvari and Wardhā fit for navigation included the excavation of a channel through this expanse of rock, which was known as the Third Barrier. The scheme proved impracticable; and except that timber is sometimes floated down from the Ahiri forests in the monsoon months, no use is now made of the river for navigation. The area drained by the Wardhā includes Wardhā District, with parts of Nāgpur and Chānda in the Central Provinces, and the eastern and southern portion of Berār. The principal tributaries of the Wardhā are the Wunnā and Erai from the east, and the Bembla and Pengangā which drain the southern and eastern portions of the plain of Berār. The banks of the river are in several places picturesquely crowned by small temples and tombs, and numerous ruined forts in the background recall the wild period of Marāthā wars and Pindāri raids. Kundalpur (Dewalwāra) on the Berār bank opposite to Wardhā District is believed to represent the site of a buried city, celebrated in the Bhagavad Gīta as the metropolis of the kingdom of Vidarbhā (Berār). A large religious fair is held there. At Ballālpur near Chānda are the ruins of a palace of the Gond kings, and a curious temple on an islet in

the river which for some months in the year is several feet under water. The Wardhā is crossed by the Great Indian Peninsula Railway at Pulgaon.

Wargaum.—Town in the Māval *tāluka* of Poona District, Bombay. *See* WADGAON.

Warorā Tahsīl.—North-western *tahsīl* of Chānda District, Central Provinces, lying between 19° 59′ and 20° 44′ N. and 78° 48′ and 79° 37′ E., with an area of 1,282 square miles. The population in 1901 was 134,547, compared with 144,580 in 1891. The density is 105 persons per square mile. The *tahsīl* contains one town, WARORĀ (population, 10,626), the head-quarters; and 406 inhabited villages. Excluding 346 square miles of Government forest, 71 per cent. of the available area is occupied for cultivation. The cultivated area in 1903–4 was 515 square miles. The demand for land revenue in the same year was Rs. 1,14,000, and for cesses Rs. 13,000. The greater part of the *tahsīl* is an open black-soil tract in the valley of the Wardhā river, bearing spring crops, and thus differing considerably from the rest of Chānda, which is mainly a rice District, and resembling rather the adjoining District of Wardhā.

Warorā Town.—Head-quarters of the *tahsīl* of the same name, Chānda District, Central Provinces, situated in 20° 14′ N. and 79° 1′ E., two miles from the Wardhā river. It is the terminus of the Wardhā-Warorā branch of the Great Indian Peninsula Railway, 45 miles from Wardhā town and 517 from Bombay. An extension of the railway from Warorā to a point beyond Chānda has recently been begun. Population (1901), 10,626. Warorā was constituted a municipality in 1867. The municipal receipts during the ten years ending 1901 averaged Rs. 22,000. In 1903–4 the income had increased to Rs. 32,000, principally derived from octroi. Water is obtained from a large tank outside the town, and carried into it in pipes. Warorā is the station at which the bulk of the produce of Chānda District, and much of that of the adjoining Yeotmāl District of Berār, reaches the railway. A Government colliery was worked here from 1871 to 1906. In 1903–4 the output was 117,000 tons of coal, raised at a cost of Rs. 2–15–4 per ton. The earnings for the year amounted to 5·4 lakhs and the expenditure to 3·7 lakhs, giving a return of 11½ per cent. on the capital expenditure. About 1,000 miners were employed. The coal was sold to the railway, and to the local mills and factories. In connexion with the colliery a fire-clay brick and tile factory was established, the output of which in 1904 was valued at Rs. 42,000. A ginning and pressing factory belonging to the Empress Mills, Nāgpur, with 14 gins and one press, was opened in 1903. It has a capital of about a lakh of rupees, and dealt with cotton to the value of Rs. 55,000 in the first year of working. Another cotton-press and three ginning factories have since been

constructed. Warorā possesses English middle and girls' schools, and two dispensaries.

Warud.—Town in the Morsī *tāluk* of Amraotī District, Berār, situated in 21° 10′ N. and 78° 7′ E. Population (1901), 7,179. The town, which is known among Musalmāns as Barur, is a local centre of the cotton trade and contains ginning factories.

Wāsi.—Crown *tāluk* in the north of Osmānābād District, Hyderābād State, which was absorbed in the Kalam *tāluk* in 1905. The population in 1901, including *jāgīrs*, was 49,671, and the area 355 square miles. The land revenue was 1·9 lakhs.

Wāso.—Town in the Kadi *prant*, Baroda State. *See* VĀSO.

Watrap.—Town in Tinnevelly District, Madras. *See* VARTTIRĀYIRUPPU.

Wazīrābād Tahsīl.—*Tahsīl* of Gujrānwāla District, Punjab, lying on the south-eastern bank of the Chenāb, between 32° 8′ and 32° 31′ N. and 73° 41′ and 74° 15′ E., with an area of 455 square miles. The *tahsīl* consists of a riverain belt along the Chenāb; a rich and highly developed tract along the Siālkot border, with abundant well-irrigation; and the level uplands known as the Bāngar. The head-works of the Chenāb Canal are at Khānkī in this *tahsīl*. The population in 1901 was 183,205, compared with 183,606 in 1891. It contains the towns of WAZĪRĀBĀD (population, 18,069), the head-quarters, RĀMNAGAR (7,121), SODHRA (5,050), and AKĀLGARH (4,961); and 254 villages. The land revenue and cesses in 1903–4 amounted to Rs. 2,70,000.

Wazīrābād Town.—Head-quarters of the *tahsīl* of the same name in Gujrānwāla District, Punjab, situated in 32° 26′ N. and 74° 7′ E., on the right bank of the Chenāb, 21 miles north-west of Gujrānwāla town. Population (1901), 18,069. Said to have been founded in the time of Shāh Jahān by Wazīr Khān, it is first heard of in the time of Charat Singh, when, together with other towns in the District, it fell into his hands about 1760. Ranjīt Singh acquired it in 1809, and shortly afterwards General Avitabile made it his head-quarters. He built an entirely new town, with a straight broad bazar running through it, and side streets at right angles. Wazīrābād was the head-quarters of the old Wazīrābād District, broken up in 1851–2, and was the site of a cantonment removed to Siālkot in 1855 on account of the unhealthiness of the place.

The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 20,800, and the expenditure Rs. 21,400. In 1903–4 the income was Rs. 20,800, chiefly from octroi; and the expenditure was Rs. 19,200. The town has a considerable trade in timber, which comes down the Chenāb from Jammu territory, and in cloth, grain, and sugar. The smiths of Wazīrābād have a reputation for the manufacture of small articles of cutlery, and the village

of Nizāmābād within a mile of the town is famed for its weapons. Wazīrābād is an important junction on the North-Western Railway, as the Siālkot-Jammu and Lyallpur lines both branch off here. The Chenāb river is spanned opposite Wazīrābād by the Alexandra railway bridge, one of the finest engineering works of the kind in India, which was opened by His Majesty the King-Emperor when Prince of Wales in 1876. An important fair is held at Dhaunkal, a short distance off. The town possesses two Anglo-vernacular high schools, one maintained by the Church of Scotland Mission, and a Government dispensary.

Wazīristān, Northern.—Political Agency in the North-West Frontier Province, lying between 32° 45′ and 33° 15′ N. and 69° 30′ and 70° 40′ E., with an area of about 2,310 square miles. It is bounded on the north and east by the Districts of Kohāt and Bannu, and on the south by the Shaktu stream, from the point where it enters the latter District to Shuidār at its head. From Shuidār the boundary follows the eastern watershed of the Shawāl valley as far as Drenashtar Sar, and then runs north-east along the Durand Line to Kohisar in the country of the Kābul Khel Wazīrs and Biland Khel. The Agency thus comprises four large and fertile valleys: in the north, the Lower Kurram valley between the Kurram Agency on the upper reaches of that river and Bannu District; the Kaitu valley; DAUR in the valley of the Tochi, the most open and fertile of the four; and the Khaisora valley in the south. Between the Kaitu and Tochi lie the Sheratulla and, north of Miram Shāh, the Dande—two barren plains, each about 30 square miles in area. Another plateau, called the Spererāgha, similar to the Sheratulla but smaller, lies between the Kurram and the Kaitu. With these exceptions, the valleys are separated by high barren hills. The loftiest peak is Shuidār (11,000 feet), at the western end of the Khaisora valley. The hills are generally composed of eocene sandstone and conglomerate, through which great masses of limestone crop up; and their surface is covered with crumbling soil, which in flood-time fills the streams with the silt that fertilizes the valleys. The lowlands are malarious and unhealthy from August to October; and in the summer months the people migrate to the Shuidār highlands, which enjoy a perfect climate. With the exception of the Daurs of the Daur valley, the people of Northern Wazīristān all belong to the Darwesh Khel branch of the Wazīrs, who are divided into two main sections, the Utmanzai and Ahmadzai. Both these sections are subdivided into numerous clans. The Darwesh Khel are perhaps the least tractable of the Pathān tribes, and their continued raids on the Daurs impelled the latter in 1894 to petition the British Government for protection. In consequence, Daur was taken over and is now under a form of direct administration, while the Wazīrs are merely under political control. Under the agreement made with the Amīr of Afghānistān in 1893, the boundary of that State was demarcated

in 1894–5 without open opposition from the Darwesh Khel. Raids in British territory, however, continued, and in 1897 troops were sent from Datta Khel to enforce the collection of a fine which had been imposed on the village of Maizar. The villagers treacherously attacked this force, killing five British officers and men, and as a punishment their lands were laid waste by a military expedition. The tribe then submitted, and the Wazīrs held aloof from the subsequent risings on the north-west frontier, though their raids continued. For some years the tract between Thal and the Tochi in the Lower Kurram valley inhabited by the Kābul Khel section of the Utmanzai remained a veritable Alsatia, in which a number of outlaws from British territory found a refuge. Finally, in November, 1902, columns entered it from the Tochi, Bannu, and Thal. The tribesmen offered little opposition, but at Gumatti a gang of outlaws made a desperate resistance. All towers were blown up and their rebuilding has not been permitted. Large numbers of outlaws (about 250) surrendered themselves after the operations, and the country has since been opened by the tribe to the passage of troops and British officers. Roads have been made from Thal to Idak in the Tochi and to Bannu. Peace is now kept in the Tochi valley, the only portion of the Agency which is administered, by a militia corps of 1,318 men, of whom 106 are mounted, the regular troops having been withdrawn in 1904.

Wazīristān, Southern.—Political Agency in the North-West Frontier Province, lying between 31° 55′ and 32° 45′ N. and 69° 20′ and 70° 15′ E., with an area of about 2,734 square miles. It is bordered on the north by the range which terminates in the Ghalimighar and divides it from Northern Wazīristān, while on the east its boundary runs due south along a continuation of the Bābaghar range to Jandola, whence it rises to the Girni Sar and then descends to the valley of the Gomal river above Murtazā. On the south as far as Kajuri Kach in the Gomal valley it is separated from the Shirāni country by the hills south of the Gomal river, the highest of which is the famous TAKHT-I-SULAIMĀN. West of Kajuri Kach the Gomal is the boundary between the Agency and the Baluchistān District of Zhob. On the west it extends to the Durand Line, demarcated in 1894.

The Agency includes all the country occupied by the Mahsūd branch of Wazīrs, and, on the west, portions of the country of the Darwesh Khel Wazīrs. The whole area is mountainous in the extreme, the chief peaks being Shuidār (11,000), Jānimela (8,400), Pīr Ghal (11,600), Kundighar (8,100), Girni Sar (5,800), Drenashtar Narai (8,750), Nomin (10,800), and Sarwar Gul (10,700). The last two are in the Marwattai range which runs along the Afghān border.

The outer spurs of the Wazīr hills are to the eye utterly barren and

desolate, though here and there the scanty soil nourishes a few stunted wild olive and *gurgurra* bushes. These hills, however, afford good grazing for goats. The inner hills with their greater elevation are more thickly wooded with ilex and pine, and the grassy uplands are dotted in places with wild flowers. To the south-west the aspect of the country changes into wide open plains, which from a distance look like rolling grassy pampas, but are covered with stones and boulders and scored by waterless ravines. The chief plains are Zarmelān (north-east of Domandi), Wānā, and Spīn.

The only river worthy of the name in Southern Wazīristān is the Gomal, which has a strong current, with a depth of 2 to 20 feet, and a width of 20 to 100 yards, even in times of drought. Entering British territory at Domandi in the south-west corner of the Agency, it flows almost due east along its southern border, receiving numerous tributaries on its left bank, but only one, the Zhob, of any importance on its right. It then breaks through the Sulaimān range and debouches on the Derajāt plains near Murtazā. The only other perennial streams are the Tānk Zām and its tributary the Shahūr, which drain the whole Mahsūd country; and the Wānā Toi, which rises at the head of the Dhana valley and falls into the Gomal at Toi Khulla. The others are mere torrents, dangerous after heavy rainfall, but dry at most seasons of the year.

Ilex, *deodār*, edible and blue pines are the only timber trees, but these grow abundantly on the mountains above 7,000 feet. The dwarf-palm grows freely in places and is used to make mats. The seed of the edible pine-cones, walnuts, apricots, and *gurgurra* berries are the only common fruits, but on the Spera range the wild pistachio is found. Grass is abundant on the higher ranges, and shrubs such as the acacia (*palosi*) and wild olive (*khawan*) in the valleys.

Straight-horned *mārkhor* and *uriāl* are to be found in the higher hills, and 'ravine deer' (gazelle) in the valley and in the Wānā plains. The Greek partridge, *sīsī*, bustard, and a few black partridge and pigeon are the chief game-birds; and the coroneted sand-grouse breeds in the Wānā plain, where duck and snipe are also found. A fine breed of sheep-dogs, resembling the Scotch collie, is kept by the Wazīrs. Bears, leopards, wolves, and hyenas are found in the more inaccessible hills, the two latter visiting the valleys only in winter. The streams contain mahseer and other kinds of fish.

The climate is dry and in the winter months bracing, but from July to September there are constant thunderstorms. Though the country is beyond the reach of the regular monsoon rains, the resulting dampness renders the climate of the lower valleys, especially the Gomal, enervating and unhealthy. The autumn is usually rainless until December, when rain or (above 4,000 feet) snow and hail fall, and in

January and February the snowfall is fairly heavy. The temperature in spring, even in the lower valleys, is very pleasant; but as summer approaches the heat becomes excessive, being aggravated by the barrenness of the rocky gorges. The water-supply is scanty. The water of the Gomal is slightly saline, while that of the Zhob is too brackish to be drunk. The upper ranges have a pleasant climate; and such places as the Sarūna plateau near Bābaghar, the upper slopes of the Marwatti range, and notably the beautiful upland valley of Zindāwar near Baghar China, possess every climatic advantage over the lowlands and valleys in summer.

The Mahsūds were formerly notorious as the most inveterate raiders on the north-west frontier; and in 1860 a long series of outrages culminated in an attempt to sack the town of Tānk in Dera Ismail Khān District, which was frustrated by Resaldār Saādat Khān in command of a detachment of the 5th Punjab Cavalry. This was followed by a punitive expedition under Brigadier-General Chamberlain, which, in the same year, advanced to Kaniguram and inflicted great loss on the tribe, but did not secure its submission. The raids continued; and though in 1863 the Mahsūds entered into an agreement to keep the peace, it was promptly broken, while in 1878 they advanced, 2,000 or 3,000 strong, on Tānk and burnt the town. This incident was the signal for an outbreak of violence, in which several villages were burnt by the lawless tribes on the border, and which was only suppressed after severe fighting. In 1881 a second punitive expedition invaded the Mahsūd country and again penetrated to Kaniguram, but failed to exact compliance with the conditions imposed by the British Government; and the blockade was continued until hostages were given and the compensation due from the tribe was gradually realized by a tax on all their exports into British territory. From 1881 to 1891 the conduct of the Mahsūds was satisfactory; and in 1889 Sir R. Sandeman succeeded in opening up the Gomal Pass, nearly Rs. 50,000 in annual allowances being paid to the Mahsūds in return for their guarding it. The Ahmadzai Wazīrs of Wānā also received allowances. In 1892 the Amīr of Afghānistān made attempts to obtain control of Wazīristān, and in the summer of that year numerous offences were committed in British territory. Troops were then advanced to Jandola and Kajuri Kach; and the Amīr's agents having withdrawn, affairs settled down again until the garrisons were reduced, whereupon raiding began again in the Gomal and Zhob valleys, and in June, 1893, a British official was murdered. The murderers were surrendered, but two of the *maliks* who handed them over were in turn assassinated. During 1893 the Amīr renounced all claims to Wazīristān, and in 1894 a British Commission was appointed to demarcate the boundary from Domandi northwards. Meanwhile,

the Wazīr outrages had not ceased, and the British Government resolved to accept the invitation of Ahmadzai Darwesh Khel of Wānā to occupy their territory, thereby hoping to secure the peace of the Gomal Pass. Spīn and Wānā were declared protected areas; but the escort encamped at the latter place was attacked by the Mahsūds under the Mullā Powinda, a religious leader, who had assumed the title of *Bādshāh-ī-Tālibān*, or 'king of the seekers (after knowledge),' and acquired great influence over the Mahsūds. A third punitive expedition was dispatched in the cold season of 1894-5 under Sir W. Lockhart, whose columns overran the Mahsūd country, and severely punished the sections of the tribes which had been implicated in the attack on Wānā. The boundary with Afghānistān was then finally demarcated; and in 1896 Southern Wazīristān was constituted a Political Agency under a Political Agent subordinate to the Commissioner of the Derajāt, with head-quarters at WĀNĀ. During 1896-7 affairs were quiet in the Agency, and it was the only portion of the north-west frontier which did not share in the general rising of 1897-8. But between July, 1898, and the end of 1899, numerous outrages occurred, and, though a conciliatory policy was adopted, the outrages continued, until in 1900 the Mahsūds were strictly blockaded. The British Government was eventually able to treat with a full tribal *jirga* capable of enforcing its decrees on the whole community, and the terms imposed by Government were accepted by it. The Darwesh Khel have at no time given trouble, and since the blockade the Mahsūds have refrained from raiding in British territory. This has rendered possible the withdrawal of the regular troops; and except at Jandola, where there are two companies of regulars, the only force now maintained for the safeguarding of the protected area is the Southern Wazīristān militia, 1,576 strong, including 159 mounted men.

The dominant tribe of Southern Wazīristān is the Wazīrs, who are divided into two main branches, the Darwesh Khel and the Mahsūds. Migrating from Birmal at the close of the fourteenth century they occupied Shawāl and the Kohāt border north of the Tochi, which river they subsequently crossed, and from the hill country round Shuidār gradually spread southwards to the Gomal. The two branches of the Wazīrs are now at feud. Other elements in the population are the Ghilzai Powindas, of whom the Dotanni clan has settled at Spīn and Wānā; the Hindus; and the Saiyids and Urmars of Kaniguram. The Wazīrs speak a very broad dialect of Pashtū, with curious modifications of the vowels. For instance, 'Hindu' is pronounced 'Indī.' Their vocabulary contains a few Punjābi words thus disguised[1].

The Wazīrs do not in theory carry out a blood-feud to its bitter end as do other Pathāns, for the death of the offender generally

[1] J. G. Lorimer, *Grammar and Vocabulary of Wazīri Pashtū* (Calcutta, 1902).

extinguishes the feud; but if he escapes, the life of a relation may be taken, and as this may be in turn avenged, the feud tends to become interminable, as it is among the Afrīdis. On the other hand, a murder may be compounded, but only on payment of a heavier sum than is usual among Pathāns, Rs. 650 being the fixed amount. Professional assassins are often employed to punish a murderer, the hire being from Rs. 60 to 150, which is also the price of a bride. The people are by instinct intensely democratic, and any man may rise by courage and wisdom to the position of *malik* or leader; but these *maliks* have often little influence and no real authority, and many who have attempted an untoward assumption of it have been assassinated.

Though the lands which lie close to the numerous streams are well cultivated, their extent is insufficient to produce grain for the whole population. Wheat, barley, rice, maize, and millet are the chief crops, and these are often cut when green for fodder, springing up again before the harvest. Potatoes, introduced fifty years ago, are cultivated around Kaniguram.

The kine are small, black, nimble creatures, and are in much better condition than is usual in India. Goats are numerous, as are sheep, all of the fat-tailed variety; but none are sold, as they suffice only for local requirements.

A stretch of alluvial land beside a river-bed is called a *kach* in Wazīri Pashtū; and in the valleys and *kachs* the land is generally terraced and irrigated by channels cut out of the hill-side, often with considerable labour and engineering skill.

The chief mineral product is iron, which is found and smelted in many places, especially in the hills above Makīn, one of the chief strongholds of the Mahsūds.

Iron is made into knives and utensils, and was formerly made into *jazails*, or matchlocks, at Kaniguram. The artisans are almost all of the Nazar Khel, a section of the Mahsūds. Mats and ropes are made of the dwarf-palm by the men, and the women weave rough cloth from wool and blankets from goats' hair. The Dotanni Ghilzai Powindas of Dotanni Kot near Wānā are carpenters, goldsmiths, and leather-workers.

Apart from the carrying trade throughout the Gomal valley, which is in the hands of the Powindas, the exports of Southern Wazīristān consist of timber and firewood, mats and ropes, hides, and *ghī*, which are carried down by the Wazīrs to Tānk, Bannu, and Kālābagh on the Indus, piece-goods, grain, and raw sugar being brought back in exchange.

Wellington.—Hill station and military cantonment in the Coonoor *tāluk* of the Nīlgiri District, Madras, situated in 11° 22′ N. and 76° 47′ E., about 1½ miles from Coonoor and 9 miles from Ootacamund,

at a height of 6,100 feet above the sea. Population (1901), 4,793. It used to be called Jakatala, from a village and spur of Dodabetta of the same name in its immediate neighbourhood, but the term has now fallen into complete disuse. Wellington is the head-quarters of the Colonel on the Staff commanding the Southern Brigade of the Ninth (Secunderābād) Division, and also contains the convalescent dépôt. It is thus the principal military sanitarium in the South of India. It has a handsome range of barracks, built in 1857, and is garrisoned by a British infantry battalion which supplies detachments at Cannanore, Calicut, and Malappuram. Although it is only eleven degrees from the equator, its climate is most healthy, being temperate and yet invigorating. The thermometer seldom rises above 75° in the shade, and the mean temperature of the year is 62·3°. Throughout the cold months the days are clear and bracing; and if the character and time of the setting in of the south-west monsoon be regular, the middle of the year is also pleasant. The annual rainfall during the five years ending 1902 averaged 47 inches. The station is planted throughout with numerous ornamental trees, which afford shelter and add to its beauty. The intersecting valleys, the sides of the hills, and the upper plateau possess a rich soil, the result of subtropical forest growth, producing luxuriant vegetation, including almost all the usual European vegetables and many kinds of fruit.

Wer.—Head-quarters of a *tahsīl* of the same name in the State of Bharatpur, Rājputāna, situated in 27° 1′ N. and 77° 11′ E., about 24 miles south-west of Bharatpur city. Population (1901), 5,711. There are two schools attended by about 130 boys and 30 girls, besides a post office and a dispensary. The town was founded by Mahārājā Badan Singh in the first half of the eighteenth century, and is surrounded by a high mud rampart, flanked by semicircular bastions with a wide but shallow ditch.

Western Duārs.—Government estate in Jalpaigurī District, Eastern Bengal and Assam. *See* DUĀRS, WESTERN.

Western Ghāts.—Mountain range in Western India. *See* GHĀTS, WESTERN.

Western Jumna Canal.—Irrigation work in the Punjab. *See* JUMNA CANAL, WESTERN.

Western Nāra.—Canal in Sind, Bombay. *See* LARKĀNA DISTRICT.

Western Rājputāna States Residency.—One of the eight political charges into which Rājputāna is divided. It is situated in the west and south-west of the Agency, and comprises the three States of Jodhpur, Jaisalmer, and Sirohi, lying between 24° 20′ and 28° 23′ N. and 69° 30′ and 75° 22′ E. It is bounded on the north by Bīkaner and Bahāwalpur; on the west by Sind; on the south by Gujarāt; and on the east by Mewār, the British District of Ajmer-Merwāra, and

Kishangarh and Jaipur. Excluding Sirohi and parts of Jodhpur in the vicinity of the Lūni river or at the base of the Arāvalli Hills on the eastern frontier, the country is a dreary waste covered with sandhills of all shapes and sizes. Water is scarce, often 300 feet below the surface, the cultivation is poor and precarious, and famines or scarcities are constant visitors. The head-quarters of the Resident are at Jodhpur. The population has varied from 2,008,664 in 1881 and 2,834,715 in 1891 to 2,163,479 in 1901; the decrease of nearly 24 per cent. during the last decade was due to a series of indifferent seasons culminating in the famine of 1899–1900, which, as elsewhere in Rājputāna, was immediately followed by a severe outbreak of malarial fever. The Residency is more than twice the size of any other political division of Rājputāna, but as regards population it stands second, and the density is only 41 persons per square mile. The Jaisalmer State on the extreme west, with 4½ persons per square mile, is for its size (over 16,000 square miles) the most sparsely populated tract in India. Of the total population in 1901, Hindus formed nearly 82 per cent., Musalmāns 8 per cent., and Jains 7 per cent. Christians numbered 848, more than two-thirds being found at Abu and Abu Road (in Sirohi), where there is a fairly large community of Europeans and Eurasians.

The following table gives details for the three States which form the Residency:—

State.	Area in square miles.	Population, 1901.	Normal land revenue (*khālsa*), in thousands of rupees.
Jodhpur . . .	34,963	1,935,565	9,00
Jaisalmer . . .	16,062	73,370	16
Sirohi . . .	1,964	154,544	68
Total	52,989	2,163,479	9,84

There are altogether 4,909 villages and 33 towns. The largest towns are JODHPUR CITY (population, 79,109, including suburbs), PHALODI (13,924), NĀGAUR (13,377), PĀLI (12,673), SOJAT (11,107), and SĀMBHAR (10,873).

Wetwin.—Township of Mandalay District, Upper Burma, lying between 22° 2′ and 22° 21′ N. and 96° 22′ and 96° 42′ E., with an area of 175 square miles. The population was 2,818 in 1891, and 3,354 in 1901, distributed in 37 villages. The head-quarters are at Wetwin (population, 812), on the Lashio railway, 55 miles from Mandalay. The inhabitants of the township, which is hilly and covered with scrub jungle, are for the most part Danus, and the density of population is very low. The *thathameda* collections in 1903–4 amounted to Rs. 5,000.

Whitefield.—A Eurasian and Anglo-Indian settlement in the Bangalore *tāluk* of Bangalore District, Mysore, situated in 13° 0′ N. and 77° 45′ E., 2 miles south of Whitefield railway station, and 12 miles east of Bangalore city. Population (1901), 968. It is named after Mr. D. S. White, the founder of the original Association in Madras, and was established in 1882 on land granted by the Mysore State, with additional land leased by the founder from a *jodidār* of Pattandūr. There are about fifty houses, mostly occupied by pensioners, who cultivate fruit and vegetables, raise timber and grain crops, keep poultry, &c. There are Protestant and Roman Catholic churches, schools, and other institutions. The soil is good, water fairly abundant, and climate salubrious. Sausmond and Duckworth are connected colonies in the same neighbourhood, to the south.

Winjhrot.—Ancient fort in the Bahāwalpur State, Punjab. *See* BIJNOT.

Wular Lake.—Lake in Kashmīr State, lying between 34° 16′ and 34° 26′ N. and 74° 33′ and 74° 42′ E., at an elevation of 5,180 feet above sea-level. The lake has an area of 12½ square miles, but in years of flood, such as 1893, it may cover 103 square miles. The Wular has a bad reputation among the boatmen of Kashmīr; for when the winds come down the mountain gorges, the quiet surface of the lake changes into a sea of rolling waves, most dangerous to the flat-bottomed craft of the country. The name is supposed to be a corruption of *ullola*, Sanskrit for 'turbulent' or '[the lake] with high, going water.' The ancient name is Mahāpadmasaras, derived from the Nāga Mahāpadma, who is located in the lake as its tutelary deity. The Bohnar, Madmati, and Erin streams flow into the lake from the high amphitheatre of mountains on the north, while from the south the Jhelum enters through marshes and peaty meadows. In the north-east corner is an island made by king Zain-ul-ābidīn as a storm refuge for boats, and on the western shore is the scarp of Watlab on which stands the celebrated shrine of Shukr-ud-dīn. The chief products of the lake are fish, wild-fowl, and the *singhāra* nut.

Wūn District (*Wanī* in Marāthī and *Wūn* in Urdū).—Former District in Berār, lying between 19° 45′ and 20° 42′ N. and 77° 37′ and 79° 11′ E., with an area of 3,910 square miles, incorporated since 1905 in the new YEOTMĀL DISTRICT. It was bounded on the north by the Amraotī and Chāndūr *tāluks* of Amraotī District; on the east by the Wardhā; on the south by the Pengangā; and on the west by the Pusad and Mangrūl *tāluks* of Bāsim District. The area, with the exception of the valley of the Bembla river in the north, which lies in the PĀYĀNGHĀT, is situated in the BĀLĀGHĀT. The greater portion of the valley of the Wardhā on the east is, however, similar in its physical aspects to the Pāyānghāt, the

Physical aspects.

soil, here and in the Bembla valley, consisting of a deep layer of rich black loam. The formation in the Wūn *tāluk*, in the south-eastern corner of the District, is peculiar, and will be noticed later. With these exceptions, the District consists of hilly country formed by offshoots from the AJANTA chain, of which two ranges may here be distinguished. The first crosses the north-western boundary of the District near Lohī, and runs eastward, with an inclination to the south, for about 70 miles, when it turns to the south and runs down to the Pengangā near Kāyar. On this plateau YEOTMĀL, the head-quarters of the District, is situated, at an elevation of 1,476 feet. The second range enters the District from the west, near Mangrūl Pīr, and to the south of the first, and branches into two ranges, one of which runs north-east towards Dārwhā, while the other takes a south-easterly direction as far as Warur, where it ceases. The highest point in the District, 1,921 feet above sea-level, is on this range. The scenery is less monotonous than in the central valley of Berār. The rocky hills are well wooded, and the river scenery is fine, especially in the rainy season.

The river system consists of the WARDHĀ and PENGANGĀ and their tributaries. These two rivers meet at the south-eastern corner of the District, and the latter drains the greater part of it, the affluents of the Wardhā, except the Bembla, being small and unimportant. The tributaries of the Pengangā are the Arna and Arān, which unite before they meet it, the Wāghārī, the Kūnī, and the Vaidarbha.

The hill ranges already mentioned constitute, so far as Berār is concerned, the eastern limit of the great cap of Deccan trap. On their south-eastern margin, the pre-Cambrian rocks of the Purāna group come to the surface. These consist of shales, often altered to slates, sandstones, frequently changed to quartzites, and limestones, also sometimes altered. They are covered with two small outlying patches of Deccan trap south-east of Kāyar, and with some outliers of Gondwāna beds farther west. Of these old rocks the sandstones, approaching quartzites in structure, form the western front of Mālāgarh hill, the eastern and main part of which is composed of sandstones belonging to the Kamptee division of the Gondwāna system. The same Purāna sandstones form Yānak hill, which rises to 1,005 feet above sea-level. Several bands of conglomerate occur, containing pebbles of hematite, from which the iron formerly made at Yānak was obtained. Shales, slates, and limestones of the Purāna group prevail to the west of the sandstone band, giving some very fine sections on the Pengangā and its tributaries. The Gondwāna rocks belong to the Tālchers, or basement barren beds, covered by coal-bearing Barākars and the still younger Kamptee series. According to Mr. T. W. H. Hughes (*Memoirs, Geological Survey of India*, vol. xiii, p. 98), about 2,100,000 tons of coal are available in the District. Direct evidence of the occurrence of coal

has been obtained throughout thirteen miles of country from Wūn to Pāpūr, and for 10 miles from Junād to Chincholī. The most northerly point at which coal has been found is Jhagra on the Wardhā, where a coal seam over 7 feet thick occurs at 50 feet from the surface. South of this point the country is covered with trap, and the continuation of the coal-seams has not been proved; but the Barākars crop out again near Pisgaon on the southern margin of the tongue of trap. At this point coal has been struck at 77 feet from the surface in a seam 27 feet thick, and at other points to the south-east it has been proved in the same way by borings; at Parsoda a 31-foot seam was met at 190 feet, and at Wūn at 300 feet. The existence of thick coal-seams has similarly been proved in the Barākars which crop out near the Wardhā river in the south-eastern part of the District.

The forest vegetation will be noticed later. In the more open tracts the species that also occur in the forests are found, as well as *Acacia arabica*, tamarinds, mangoes, *pīpals*, banyans, &c. The field weeds are of the species usually found in Central India, and the hills are covered with various grasses.

Tigers, leopards, bears, wild hog, antelope, spotted deer, *nīlgai*, 'ravine deer' (gazelle), and grey monkeys are common; the wolf, the wild dog (*Cyon dukhunensis*), the hunting leopard (*Cynaelurus jubatus*), and the four-horned antelope (*Tetracerus quadricornis*) less so. The crocodile is found in both the Wardhā and the Pengangā, and otters are not uncommon.

The sun is very powerful and the air usually extremely dry during the hot season, which lasts from March till June; but the heat is less intense than in the Pāyānghāt, the highest temperatures recorded at Yeotmāl being usually three or four degrees below the reading at Amraotī, and the nights are generally cool and pleasant throughout the year. In the rainy season the climate is generally temperate, and the cold season is pleasant, especially in the valleys and near streams.

The rainfall is fairly uniform, and is heavier than that recorded in the central valley of Berār. Thus in 1901, which was a normal year, 41 inches were recorded, compared with 29 in Amraotī.

History.

The District was never a separate political entity. Before the arrival of the Musalmāns in 1294, it was probably subject at various times to the Gonds and to the Hindu Rājās of Warangal. It formed part of the province of Berār under the Bahmani Sultāns of the Deccan, but was frequently overrun by Gonds. In 1400 it was invaded and occupied by Gonds from Kherla; and in 1425 the whole District, with the fortresses of Māhūr and Kalam, was in the hands of 'the infidels,' probably the same Gonds. In this year Ahmad Shāh Walī, the ninth Sultān of the Bahmani dynasty, attacked

and reduced the two fortresses and recovered the District, slaying large numbers of the infidels.

In 1479, in the reign of Muhammad Shāh Lashkarī, the thirteenth ruler of the Bahmani dynasty, the *taraf* or province of Berār was divided into two provinces, Gāwīl and Māhūr, the greater part, if not all, of what was till recently Wūn District being included in the latter, under the governorship of Khudāwand Khān the African, in whose possession it was when Fath-ullah Imād-ul-mulk proclaimed himself Sultān of Berār in 1490. Soon after this, however, Imād-ul-mulk wrested the province of Māhūr from the successors of Khudāwand Khān. When Berār, in the reign of Akbar, passed under Mughal rule, the greater part of Wūn District was included in the *sarkārs* of Kalam and Māhūr.

The long and wasting wars carried on by Aurangzeb gave rise to fiscal exactions from which the whole of Berār suffered; and the reverses of the emperor afforded to Rājā Bakht Buland of Deogarh an opportunity of ravaging the rich lowlands on both sides of the Wardhā. Towards the end of the seventeenth century the Marāthās swarmed into the country; and though Asaf Jāh Nizām-ul-mulk strengthened his hold in 1724, all real power in Wūn District soon passed into the hands of the Bhonsla family. The District was the scene of the early rivalry between Raghujī Bhonsla, the founder of the Nāgpur line, and his kinsman Kānhojī. It was at Bhām, on the top of a small plateau overlooking the Arān river, that Raghujī had an intimation of the bright future that lay before him; and it was from Bhām that by a secret and solitary flight to Deogarh he escaped assassination at the hands of Kānhojī and his son Rāyaljī. The contest with Kānhojī ended in 1734, when Raghujī captured his rival at a small village to the south of Wūn town. Eleven years later Raghujī, then firmly seated at Nāgpur, wrested the Wūn *pargana* from Chānda, to which power it had fallen during the confusion of the preceding years, and afterwards annexed Chānda itself. The struggles in which the Nāgpur Rājā, the Nizām, and the Peshwā were engaged during the rest of the eighteenth century did not directly affect Wūn District; but on April 2, 1818, the Peshwā, when retreating towards Chānda to effect a junction with Appa Sāhib, was pursued by a small British force under Colonel Adams, who overtook him at the little village of Siwni in the Kelapur *tāluk*, and signally defeated him. During all these disorders the fertile lowlands along the Wardhā suffered severely from the depredations of the Pindāris. In 1848 the District was disturbed by a man who claimed to be Appa Sāhib, the former Rājā of Nāgpur. The pretender, who had a following of about 4,000, was defeated and captured in 1849. In 1853 this area was assigned by the Nizām, with the rest of Berār, to the East India Company, and at first was included in the East Berār

District, the head-quarters of which were at Amraotī. In 1864 the District was formed by separation from the East Berār District, and was at first styled the South-east Berār District—a clumsy title which soon gave way to the late designation.

The archaeological remains are neither numerous nor interesting. No vestige of the old fort at Kalam now remains, but from the numerous ruins of stone dwelling-houses it may be surmised that it was dismantled for the sake of its materials. There are Hemādpanti temples at Yeotmāl and Lohāra in the Yeotmāl *tāluk*, and at Lādkhed and Mahāgaon in the Dārwhā *tāluk*. At Kelāpur and one or two other villages in the south of the District small stone forts are found, but whether they were built by the Gonds or by the inhabitants as a protection against the Gonds is uncertain. At Bhām the ruins of large stone buildings erected by Raghujī Bhonsla are still to be seen.

Population.

The number of towns and villages is 1,209. The population at each of the last four enumerations was: (1867) 323,689, (1881) 392,102, (1891) 471,613, and (1901) 466,929. The decline in 1901 was due to a succession of very unhealthy years during the decade and to the famine of 1899–1900, which, however, was less severe in Wūn than in any other District of Berār. It was divided into the four *tāluks* of YEOTMĀL, DĀRWHĀ, KELĀPUR, and WŪN. The head-quarters of these (except of Kelāpur, which are at Pāndharkawada) are at the places from which each is named. The towns are YEOTMĀL, which is a municipality, DĀRWHĀ, DIGRAS, and WŪN.

The following table gives, for each *tāluk*, particulars of area, towns and villages, and population, in 1901:—

Tāluk.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Yeotmāl . .	908	1	293	124,031	137	− ·3	4,929
Dārwhā . .	1,062	2	327	156,679	148	+ 0.6	4,553
Kelāpur . .	1,080	...	310	103,657	96	− 2·1	2,338
Wūn . .	860	1	275	82,562	96	− 2·4	1,893
District total	3,910	4	1,205	466,929	119	− 1·0	13,713

Nearly 79 per cent. of the people are Hindus. The density of the population, 119 persons per square mile, is less in Wūn than in any other District of Berār, except Ellichpur. This is due to the large area of forest and uncultivable land, and to the comparative poverty of the soil. The increase in the population in 1881 and 1891 was due largely to the influx of immigrants anxious to take up land. The language of

the great majority of the population here, as elsewhere in Berār, is Marāthī. The Musalmāns, who number 22,000, speak a corrupt dialect of Urdū, which is generally understood by all. Gondī, under which term is included the distinct but allied language Kolāmī, is spoken by 55,500, and Banjārī or Labhānī by 26,000. More than 23,000, living principally in the Pengangā valley, speak Telugu.

The Kunbīs, as in all other Districts of Berār, largely exceed other castes, and number 105,000, the Mahārs coming second with 46,000. The Gonds number 45,000, and the Kolāms and Pardhāns, allied tribes, 15,000 and 12,000. The Banjārās (26,000), the Telis (15,000), and the Gaolīs (13,000) are more numerous than in any other District of Berār. Musalmāns number 22,000, Mālīs 20,000, Dhangars 9,000, and Brāhmans, who are less numerous in Wūn than in any other District, 6,500. The percentage (79) of the population living by the land is higher in Wūn than in other Districts of the province. The proportion which the regular agricultural castes bear to other tribes is, as has been seen, fairly high. But in addition to these the Gond tribes, now no longer able to pursue at will their old occupation of hunting, have been driven to the land; and though they are as yet far from being satisfactory cultivators, and are, perhaps, from their intemperance and easy-going nature among the worst labourers in Berār, they are unable to find more congenial occupations. More than 10 per cent. of the population are supported by industries.

There is only one Christian mission in the District, the American Free Methodist Mission, which did good work in the famine of 1899-1900. Of the 205 Christians enumerated in 1901, 179 were natives, and of these the majority were Methodists.

Agriculture.

The deep black loam which characterizes the lowlands of Berār is found in the Bembla valley on the north of the District and in the Wardhā valley on the east. On the plateaux the soil is generally of poorer quality; and though the black loam is of frequent occurrence, it nowhere attains the depth of the layer in the valleys. It alternates with red and light-coloured soils considerably inferior to it in quality; and both the black and the red soils are frequently covered with stones, the presence of which in the lighter soils is regarded by the cultivator as an advantage, for it is believed that they help to retain moisture. The soil in the valleys of the smaller rivers is deeper and more fertile than on the plateaux, and a great portion of the Wūn *tāluk* is covered with a sandy soil, the attritus of the sandstone formation found there. This soil, though not infertile, is decidedly inferior to the loam. The loam of the plateaux is frequently combined with calcareous soil, which impairs its fertility. The success of the harvests, both *kharīf* and *rabi*, depends upon the south-west monsoon.

The tenures are principally *ryotwāri*; but *ijāra*, *jāgīr*, and *pālampat* villages cover 1,283 square miles out of 3,921. The area of land held on these tenures is very much greater, both actually and proportionately, than in any other District of Berār. The *ijāra* system was introduced after the Assignment, with a view to bringing waste land rapidly under cultivation. No such device was found necessary in the plains, where the soil was richer and was not called upon to support a local class of unsatisfactory cultivators.

The following table gives the chief agricultural statistics in 1903–4, areas being in square miles:—

Total.	Cultivated.	Irrigated.	Cultivable waste.	Forests.
3,921	2,679	20	150	799

The staple food-grain is *jowār*, or great millet, the area under which was 1,215 square miles. The area under cotton, the most profitable crop in Berār, was 692 square miles. Pulses and oilseeds, which are more extensively cultivated in Wūn than in other Districts, covered 283 and 173 square miles; and wheat 75.

Although the cultivated area has trebled during the last thirty years, 209 square miles, or more than 7 per cent. of the cultivable land in the District, still remain unoccupied. The expedient of leasing integral villages has been abandoned, and the unoccupied land is being taken up by degrees. It cannot be said that any improvement has been made in agricultural practice. On the contrary, the cultivator, here as elsewhere in Berār, has given up the fine long-stapled variety of cotton for which the province was formerly noted in favour of a coarser variety of short staple, which has the merit of being more prolific, and of requiring less attention than the superior variety. Cultivators do not avail themselves freely of loans from Government.

The breed of cattle is, owing partly to the situation of the District and partly to local conditions, more mixed than in other parts of Berār. The origin of the breed is probably, in the main, a cross between the Umarda, or smaller variety of the local breed, and the Arvī breed of the Central Provinces; but this cross is again much varied by cattle imported from other parts of the Central Provinces and from the Hyderābād State, which are brought to the weekly cattle market at Digras, the largest in the province, and the annual cattle fair at Wūn. The buffaloes are chiefly of the Nāgpuri and Dakhanī breeds. The ponies bred locally are animals of little value, and the local breeds of sheep and goats, especially the former, are very poor.

The area of irrigated land in 1903–4 was rather less than 20 square miles, nearly all of which was watered from wells and devoted principally to garden crops. The area irrigated from streams and

tanks, though larger than in any other District in Berār, was only 211 acres.

Forests, &c.

Forests cover 799 square miles, a larger area than in any other District of Berār, except Ellichpur. They are divided into three classes, according as they are reserved for timber and fuel, for the supply of fodder, or for pasture land. The areas of the three classes are 230, 21, and 548 square miles. Timber trees in forest lands of the second and third classes, which produce various grasses, are few and unimportant. In forests of the first class the principal species are, on the plateaux, *Boswellia, Adina, Bridelia, Terminalia*, &c.; the slopes of the hills and the lower undulating ground have teak, *Ougeinia, Pterocarpus Marsupium, Dalbergia latifolia*, &c.; and in the lower parts of the ravines are bamboos (*Dendrocalamus strictus*). The forest revenue amounts to rather more than a lakh annually, half of which is represented by grazing dues and the sum realized by the sale of fodder. Timber and fuel together bring in little more than a third of the amount realized from these sources.

The mineral resources, which consist of coal and iron, have already been described under Geology. Neither is yet worked; and though there is little doubt that coal-mines will yield a handsome profit, the same cannot be said of iron, for the capabilities of the District in this respect have yet to be explored. The fact that it would be possible to smelt on the spot any iron that may be discovered should encourage enterprise. Some soapstone is found near Wūn, but the product is of no economic importance.

Trade and communications.

Arts and manufactures in Wūn District, as elsewhere in Berār, are unimportant. The practice of ginning cotton by hand is dying out; and the chief manufactures consist of ordinary country cotton cloth, *khādīs, sārīs*, and turbans, woven in hand-looms. The printing of cotton cloth in fast colours is a local industry in the town of Wūn. The principal industry is the preparation of cotton for the market, and the District contains 16 ginning factories and 6 cotton-presses, all worked by steam.

The chief exports are raw cotton, oilseeds, and cereals and pulses; and the chief imports are cereals and pulses, salt, and sugar. Imports are mainly from neighbouring Districts, Bombay, and the Central Provinces; and the exports are principally to Bombay by rail, the Great Indian Peninsula Railway being reached by the Yeotmāl-Dhāmangaon road. From the south-east of the District exports are carried to the Wardhā Coal State Railway. Yeotmāl is the chief centre of the cotton trade, and also of the general trade of the District. Wūn, Dārwhā, and Digras are also important centres of general trade, large numbers of cattle being brought to the weekly cattle market at the last-named town. The trade is chiefly in the hands of Mārwāris

and Vānīs. Most of the internal trade is effected through the agency of the weekly markets held at the head villages of the old *parganas*. These are managed by the local boards.

There is no railway in the District. The total length of metalled roads is 125 miles, and of unmetalled roads 18 miles, the former being under the charge of the Public Works department, and the latter under the District board. The principal roads are those from Yeotmāl to Dhāmangaon, Dārwhā, and Wūn town.

Famine.

The District does not differ from the rest of Berār in respect of its liability to famine, and it has suffered from all the famines which have visited the Province. It was affected less severely than other Districts by the scarcity which prevailed in 1896–7 and by the famine of 1899–1900; but its partial escape from these calamities was due to purely fortuitous circumstances, not to any special advantages of soil or climate. At the height of the last famine, in June, 1900, 18,033 persons were on relief works, and 5,868 more were in receipt of gratuitous relief; and it is calculated that 750,000 cattle died, including those brought into the District from other parts of Berār and the Central Provinces for pasture, which was available in Wūn District after it had failed elsewhere. The statistics of mortality among cattle are merely an estimate, and cannot be accepted as accurate; but the mortality was unquestionably greater than elsewhere in the Province.

There are no subdivisions in Wūn. A *tahsīldār* resides at the headquarters of each of the four *tāluks*[1]. The superior staff of the District consists of the usual officers.

Administration.

For judicial purposes Wūn now forms part of the Civil and Sessions District of East Berār, and has an Additional District Judge, a Subordinate Judge, and two Munsifs. Murders are rare; but dacoity and robbery, though much less frequent than formerly, are still somewhat more common than in other Districts. Crime of this nature is principally committed by Banjārās and Kolāms. The former tribe is gradually being weaned from its criminal propensities, which were the natural result of the failure of its hereditary means of subsistence, viz. pack carriage, the demand for which disappeared as means of communication were improved; and there is every reason to hope that the tribe will, by degrees, accept the new condition of things and adopt agriculture—for the extension of which there is still room—as its means of livelihood. The Kolāms are the most backward tribe in the Province, and their regeneration is to be looked for in the advance of education and the rigorous administration of the law, for they are not a tribe of hereditary criminals. They are only slow to learn that lawlessness is not profitable in the long run.

[1] The new District of Yeotmāl, constituted in 1905, contains five *tāluks*.

The Mughal land revenue demand in the *parganas* which formed Wūn District was, according to the *Aīn-i-Akbarī*, 4·8 lakhs. At the time of the Assignment in 1853 it had fallen to Rs. 70,000, or little more than one-seventh of the demand in Akbar's reign. The wars, famines, and maladministration of the seventeenth, eighteenth, and early part of the nineteenth centuries were the principal cause of this enormous decrease in production. The Gonds of Chānda were never thoroughly subdued by the Mughals; and their depredations, combined with the exactions of the power which was nominally supreme, must have gone far towards exhausting the resources of the District. By the time that all the authority which the Mughal emperors of Delhi ever exercised in Berār had in fact passed into the hands of their great lieutenant in the Deccan, the Bhonslas had established their power in Wūn District, and it may be presumed that they contributed but little to the coffers of the Nizām. They rendered the District one service by finally extinguishing Gond rule. When Berār fell into the hands of the revenue farmers, the cultivators fled from their oppression into British territory. Since the Assignment the recovery has been more gradual than in other Districts, for, except in a few favoured tracts, the soil is not such as to attract cultivators who have obtained holdings elsewhere. It was this consideration which induced the Administration to lease land, under rules modified from time to time, not by fields, but by integral villages, and thus to introduce an unaccustomed tenure into the Province.

The first regular survey and settlement since the Assignment took place between the years 1873 and 1876, and is still in force except in the Dārwhā *tāluk*, where the settlement was revised in 1898, the new rates of assessment being brought into force in 1902-3. Under the original settlement the average rate per acre was R. 0-7-6, with a maximum of Rs. 1-8 and a minimum of R. 0-1-6. The average assessment per acre in 'wet' lands was Rs. 3. The new assessments in the Dārwhā *tāluk* work out to a maximum of Rs. 1-12, a minimum of R. 0-3, and an average of R. 0-15-6 per acre, the whole demand being little more than 15 per cent. in excess of the old revenue. Land irrigated from tanks and streams is assessed at a maximum combined land and water rate of Rs. 8 per acre; that irrigated from wells sunk before the original settlement is assessed at the maximum rate for 'dry' land in the same neighbourhood; and that irrigated from wells made later is treated in all respects as 'dry' land. Rice land is assessed at a maximum rate of Rs. 6 per acre.

Collections on account of land revenue and revenue from all sources have been as given on the next page, in thousands of rupees.

Outside the municipality of YEOTMĀL, local affairs are managed

by the District board and the four *tāluk* boards subordinate to it. The expenditure in 1903-4 was Rs. 75,000, of which rather more than a sixth was spent on education, and rather more than a third on public works. The principal sources of income were rates and assessed taxes, and a grant from Provincial revenues.

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . . .	5,12	5,87	6,58	7,46
Total revenue . . .	7,55	10,65	11,26	12,88

The District Superintendent of police has general control over the police under the Deputy-Commissioner. The District contained 23 police stations, including town police stations, and 8 outposts. The force in 1903-4 numbered 417 policemen and 9 rural policemen, under 3 inspectors. The only jail is at Yeotmāl, which contained in 1903-4 a daily average of 41 prisoners.

Wūn stands last among the six Districts of Berār in the literacy of its population, of whom 2·9 per cent. (5·6 males and 0·1 females) could read and write in 1901. The position of the District in this respect is due to the comparatively large proportion of backward tribes—Banjārās, Gonds, Kolāms, and Pardhāns—which it contains. Education is most advanced in the Yeotmāl and Dārwhā *tāluks*, and least so in Kelāpur. In 1903-4 the District contained 76 public, 49 aided, and 10 unaided schools, with a total of 6,102 pupils, of whom 4,647 attended public schools, 233 were girls, and 156 were in secondary schools.

The two secondary schools were managed by the Educational department, and of the primary schools 74 were managed by the District board and 54 were aided from public funds. The great majority of the pupils under instruction in the District were only in primary classes, and no girls had passed beyond that stage. Of the male population of school-going age, 7·6 per cent. were in the primary stage of instruction, and of the female population of the same age, 0·27 per cent. Among Musalmāns more than 6 per cent. are able to read and write. The expenditure on education in 1903-4 was Rs. 41,000, of which Rs. 1,429 was derived from fees.

The District possesses one hospital and six dispensaries, with accommodation for 26 in-patients. In 1903 the number of cases treated was 34,900, of whom 314 were in-patients, and 834 operations were performed. The expenditure was Rs. 10,439, of which the greater part was met from Provincial revenues.

In regard to vaccination the District holds the first place in the Province. In 1902-3 the number of persons successfully vaccinated

was 39·89 per 1,000, compared with 36·58, which was the mean for the Province. Vaccination is compulsory only in the municipality of Yeotmāl.

In August, 1905, when the six Districts of Berār were reconstituted, this District received the designation of Yeotmāl, and the Pusad *tāluk* of Bāsim, which ceased to exist as a separate District, was incorporated in it. The present area of Yeotmāl District is 5,183 square miles, and the population of that area in 1901 was 575,957.

[*Tāluk Settlement Reports:* R. R. Beynon, *Yeotmāl* (1874), *Wūn* (1875); F. W. Francis, *Dārwhā* (1901).]

Wūn Tāluk.—*Tāluk* of Yeotmāl District, Berār, lying between 19° 47′ and 20° 17′ N. and 78° 37′ and 79° 11′ E., with an area of 860 square miles. The population fell from 84,678 in 1891 to 82,562 in 1901, the density being 96 persons per square mile, the same as in the Kelāpur *tāluk*. The *tāluk* contains 275 villages and only one town, WŪN (population, 6,109), the head-quarters. The demand for land revenue in 1903–4 was Rs. 1,41,000, and for cesses Rs. 9,000. Until August, 1905, Wūn gave its name to the District in which it is situated, though the town was never the head-quarters. The *tāluk* lies in the south-eastern corner of Berār, in the angle formed by the confluence of the Wardhā and Pengangā rivers, which bound it on the north-east and the south. The soil is generally fertile, but in the north-east it is more sandy than is usual in Berār. Coal exists in a considerable portion of the area.

Wūn Town.—Head-quarters of the *tāluk* of the same name in Yeotmāl District, Berār, situated in 20° 3′ N. and 79° E. Population (1901), 6,109. In Marāthī the town is known as Wanī, Wūn being the name used by Musalmāns. A fair, at which cattle, carts, and hardware are sold, is held here annually about the time of the Holī festival, in March. At Mandār, a small village south of Wūn, Raghujī Bhonsla in 1734 captured his kinsman Kānhojī, who had disregarded the orders of the Rājā of Sātāra to return to court. In the neighbourhood of the town are several tanks.

Wundwin.—North-eastern township of Meiktila District, Upper Burma, lying on both sides of the Mandalay-Rangoon railway, between 20° 59′ and 21° 25′ N. and 95° 47′ and 96° 18′ E., with an area of 595 square miles. The population was 56,544 in 1891, and 62,935 in 1901, distributed in 277 villages, Wundwin (population, 1,090), near Thedaw on the railway, being the head-quarters. The eastern part of the township is watered by the Samon river, which runs near the foothills of the Shan plateau in a valley of some width. The more undulating country in the west is traversed by the Thinbon, the waters of which are diverted on to the surrounding paddy-fields in the rains by means

of dams. In 1903–4 the area cultivated was 117 square miles, and the land revenue and *thathameda* amounted to Rs. 1,41,000.

Wuntho Subdivision (formerly Kawlin).—South-western sub-division of Kathā District, Upper Burma, containing the WUNTHO, KAWLIN, and PINLEBU townships.

Wuntho Township.—Township of Kathā District, Upper Burma, lying between 23° 46′ and 24° 14′ N. and 95° 35′ and 95° 59′ E., on either side of the Sagaing-Myitkyinā railway, with an area of 592 square miles. At one time it formed part of the Wuntho State, which rebelled in 1891, and was incorporated in Kathā District on the suppression of the rising. The population in 1901 was 22,934 (nearly all Burmans), distributed in 301 villages. The head-quarters are at Wuntho (population, 1,879), situated on the railway line in the south of the township. The surveyed area under cultivation in 1903–4 was 41 square miles, and the land revenue and *thathameda* amounted to Rs. 76,900.

Wynaad.—Highland subdivision and *tāluk* of Malabar District, Madras, lying between 11° 27′ and 11° 58′ N. and 75° 47′ and 76° 27′ E., with an area of 821 square miles. It contains 23 *amsams*, or parishes, and 75,149 inhabitants (1901), or less than 100 persons per square mile, which is a lower density than in any other Malabar *tāluk*. The population at the Census of 1891 was 76,762, and the decrease is due to the decline in the coffee industry. The head-quarters of the *tāluk* are at MĀNANTODDY, and the only other village of importance is VAYITTIRI, in the centre of the coffee-growing country. The land revenue demand in 1903–4 amounted to Rs. 1,60,000.

The Wynaad consists of a table-land 60 miles by 30, lying amid the Ghāts at an average height of 3,000 feet above sea-level. Its most characteristic features are low ridges of hills, with sharp peaks (rising in some places to 6,000 feet) and extensive valleys. Towards the east, where it merges into the plateau of Mysore, the country becomes more level. In the south-east the Ghāts are low till they meet the Nīlgiris near Naduvattam; on the west and south-west, where the *tāluk* joins the low country of Malabar, there are several peaks of over 6,000 feet. The *tāluk* contains wide forests, which abound in game, and are rich in teak and black-wood and other valuable timber. The chief Government Reserves are the Chedleth range of 100 square miles of deciduous forest, lying round Sultān's Battery; and the Begurpadri range of 85 square miles of deciduous and evergreen forest, lying round Manantoddy and up the slopes of the Brahmagiris. The chief rivers are the Kabbani and Rāmpur, tributaries of the Cauvery. The climate is damp and, for eight months of the year, cool. The fever for which the Wynaad was once notorious has become less prevalent with increased clearing. The annual rainfall averages 130 inches, but is

much heavier in the west than in the east. Rice, *rāgi*, and other 'dry' grains are cultivated in the valleys and on the lower slopes; but the chief products are coffee, tea, and pepper. In 1904 there were 69 coffee plantations covering an area of 7,847 acres, of which about 4,800 acres were actually planted; and 27 tea plantations occupying 6,602 acres, of which 4,600 acres were under cultivation. The coffee industry was first introduced in 1805, but was not fairly established till about 1840, when several European planters opened up estates. The industry reached its height about 1880; but it has since steadily declined, a fungoid leaf disease, which first appeared in 1868, and other pests having ruined many properties. To these have lately been added Brazilian competition, and the planters are now turning their attention to pepper and other special products. In 1904 the total out-turn of coffee was 645 tons. Tea cultivation was introduced in 1880 and has increased with the decline of coffee. The yield in 1904 was 863,000 lb., much of it of excellent quality. Cinchona bark was widely cultivated twenty years ago, but is now found only in small patches. Pepper cultivation is on the increase, and is at present profitable; the vines are larger than in the low country, and give heavier crops.

Yādgīr Tāluk.—*Tāluk* in Gulbarga District, Hyderābād State. Till 1905 the *tāluk* was attached to Raichūr District. Including *jāgīrs*, the population in 1901 was 42,996 and the area 355 square miles. In 1891 the population was 62,264, the decrease being due to the transfer of certain villages to the adjoining *tāluks* and Districts. The *tāluk* contains one town, YĀDGĪR (population, 6,271), the head-quarters; and 64 villages, of which 14 are *jāgīr*. The Bhīma river flows along its western border. The land revenue in 1901 amounted to Rs. 86,000. In 1905 the *tāluk* was enlarged by the addition of some villages from Gurmatkāl and from Mahbūbnagar District.

Yādgīr Town.—Head-quarters of the *tāluk* of the same name in Gulbarga District, Hyderābād State, situated in 16° 46′ N. and 77° 9′ E., on the Great Indian Peninsula Railway. The fort of Yādgīr was built on a hill by a Yādava king. An inscription on the Nizām Burj gives an account of Nizām Alī Khān's visit to the governor of the place. In the town are a Jāma Masjid and another mosque with an inscription. Yādgīr also contains a post office, a middle school with 237 pupils, and a police inspector's office.

Yādiki.—Town in the Tādpatri *tāluk* of Anantapur District, Madras, situated in 15° 3′ N. and 77° 52′ E., 4 miles from the railway station of Rāyalcheruvu. Population (1901), 7,389. It is now the head-quarters of a deputy-*tahsīldār*. Formerly, it was the chief town of a *tāluk*, but in 1859 the Yādiki villages were divided between the *tāluks* of Gooty and Tādpatri. The place has not flourished of late, its population

having increased by only 3 per cent. during the last thirty years. The sole industry is weaving. Cotton *sārīs* for women, some with silk borders, are sold to local brokers who export them to South Kanara.

Yamethin District.—District in the Meiktila Division of Upper Burma, lying between 19° 27′ and 20° 47′ N. and 95° 34′ and 96° 39′ E., with an area of 4,258 square miles. Its boundaries are Meiktila District on the north; the Shan States on the east; Toungoo District on the south; and the Districts of Thayetmyo, Magwe, and Myingyan on the west. In shape it is an irregular rectangle, with the longer sides running north and south. On the eastern edge is the rampart of hills, 6,000 feet in height in parts, which separates the District from the Shan States. On the west is the high ground forming the northern portion of the Pegu Yoma, which changes within the limits of the District from a well-defined hill range in the south, where it divides Yamethin from Thayetmyo, into low ridges and undulating uplands in the north. From the Yoma three spurs run eastward into the intervening plains, the southernmost of which, known as the Kyawma, forms part of the watershed separating the waters of the Irrawaddy and Sittang. The central plain, lying between the two main hill systems, averages 20 miles in width, and rises from the northern border for about 20 miles as far as Yamethin, after which it drops gradually southwards for about 70 miles till the Toungoo border is reached. Yamethin town itself is on the highest point in the plain. The Kyeni tank close to the town drains, in fact, both northwards and southwards into the two main basins. The north-west corner of the District is shut off on the east by the Yoma, and drains into the Yin, which runs through Magwe District into the Irrawaddy. The uplands between the Pegu Yoma in the west and the central valley may be divided into two portions, north and south of the Kyawma. The northern is characterized by rocky, barren hills, rich, narrow valleys, and broad, undulating table-lands. It is watered by three streams rising in the Yoma: the Chaunggauk, bounding the District on the north; the Chaungmagyi, flowing east into the plain and then north into Meiktila District; and the Thitson, running in the same direction into the plains, where it supplies numerous irrigation channels. In the southern portion the country is very much broken but thickly forested, vast tracts of uncultivable land appearing in places. The rivers draining it are the Sinthe *chaung*, which rises in the Yoma in the latitude of Yamethin, and winds in a south-easterly direction to meet the Paunglaung stream near Pyinmanā; the Ngalaik *chaung*, an affluent of the Sinthe; and the Yonbin, which flows from the western hills into the Paunglaung near the village of Ela. The last-named stream rises in the uplands to the east of the District, emerges on the plain near Pyinmanā, and from thence flows southwards under its better

Physical aspects.

known name, the Sittang, into Toungoo District. It is the only navigable waterway, as the other streams, though used for floating timber in the rains, are dry for a considerable portion of the year. The only lake is the Ingyaung, which lies near the south-western corner of the District. It has an area of six square miles, and drains into one of the tributaries of the Yonbin.

Nearly the whole area is covered with soft sandstones of the Upper Tertiary (pliocene) age. To the east are hills of crystalline rocks forming the western edge of the Shan plateau, but little is known of the geology of this part of the District.

In the north, where the country is very dry, the jungle vegetation is sparse and stunted, and includes growths such as the tamarind, the cactus, the *zi* (*Zizyphus Jujuba*), and the *tanaung* (*Acacia leucophloea*). In the Pyinmanā subdivision in the south it is richer and more varied, and valuable timber trees (detailed under the head of Forests, below) are plentiful.

Tigers (including a small variety locally known as the *kyamin*), leopards, *tsine* or *hsaing* (*Bos sondaicus*), bison, and bears are met with in the hilly jungle areas, and *sāmbar* and *thamin* (or brow-antlered deer) are plentiful in the plains. As elsewhere in the dry zone, hares, partridge, and quail are found in suitable localities. In the drier portion in the north of the District snakes are common.

Yamethin is between 600 and 700 feet above the sea, and the climate in both the cold season and the rains is pleasant. In the months of April and May the heat is often intense, however, and September and October are very oppressive. In 1901 the minimum temperature recorded in January was 48°, and the maximum towards the end of April 112°. The northern half of the District lies in the dry, and the southern in the wet, zone of Burma, and the Sinthe stream may be taken as the line dividing the two tracts. The rainfall thus decreases steadily towards the north, the average for five years ending 1902 being 56 inches at Pyinmanā in the south, and 33 inches at Yindaw in the north-west. The monsoon, however, is capricious, and the rain sometimes falls at such times as to destroy every kind of crop in the northern subdivision. For the main product, rice, the rain is insufficient in the Yamethin subdivision and the northern parts of the Pyinmanā subdivision, unless supplemented by irrigation. Taking a period of ten years, the rainfall in the former area was favourable in only two years, indifferent in four, bad in three, and a complete failure in 1896; in the latter it was good in six, indifferent in two, and bad in two years.

History. Very little is known of the history of Yamethin prior to the annexation of Upper Burma. The southern portion appears to have formed part of the kingdom of Toungoo, but did not pass with the rest of Toungoo to the British at the close of the

second Burmese War. British troops first entered the District in 1885, when a column from the frontier post of Toungoo occupied Pyinmanā, then called Ningyan. Its entry was unopposed, but the surrounding country was very soon seething with rebellion. Pyinmanā District was constituted early in 1886; and before many months had elapsed it was overrun by bands of dacoits, the largest under two ex-officials, the *Le Wun* and the Theingon *thugyi* (headman), as well as three so-called princes. These gangs were constantly interrupting the British communications by river and by road, and even a part of Pyinmanā town was temporarily occupied by dacoits. At the end of the year large reinforcements were sent up, and several severe blows were inflicted on the insurgents; but the dense bamboo and high *kaing* grass jungles favoured the dacoits, who still acted on the offensive. Yamethin District was also formed in 1886, but later than Pyinmanā. It included a part of the present Meiktila District, until that was made into a separate charge. In Yamethin matters were quieter than farther south, and by 1887 this part of the country was more or less pacified. In Pyinmanā District great activity was displayed by the military police in that year, in clearing the forests of dacoit bands and disarming the inhabitants; but in the rainy season there was a recrudescence of dacoity, the seat of trouble being east of the Sittang, and two police posts were rushed by the rebels in 1888 and destroyed. At the end of 1888 four large gangs were at large, but the strict enforcement of the Village Regulation, and an expedition to clear the dacoits from their lairs in the petty Karen State of Bawgata, practically broke up the bands for good in 1889; and in 1890 the District was reduced to order by the systematic hunting down of dacoits in the Yoma. In 1893 Pyinmanā District was abolished and became a subdivision of Yamethin.

There are no archaeological remains of importance. A few of the pagodas are reputed to be of ancient date, but the best-known shrine, the Lawkamayazein pagoda near Pyinmanā, is quite modern.

Population.

The population of Yamethin District was 206,557 in 1891, and 243,197 in 1901. Its distribution in the latter year is shown in the table on the next page.

YAMETHIN, the head-quarters, and PYINMANĀ are the only towns. The rate of increase during the decade is above the average for Upper Burma. In spite of the fact that the northern half of the District has remained stationary, a remarkable increase has taken place in the wetter southern half, where harvests are more reliable than in the dry zone, and where the opening up of the country by the railway has produced results much the same as in the adjoining District of Toungoo. Another exceptional feature of the statistics is the increase in the number of residents in urban areas, which amounts to 18 per cent., and stands in marked contrast to the decreases caused by the exodus from so

many of the other towns in the dry zone. The southern subdivision consists, however, of huge expanses of forest, and despite the increase in its inhabitants, is still very sparsely populated, the density here being only about 34 persons per square mile. A certain amount of movement is directed from Yamethin towards Lower Burma, but the flow is not to be compared in volume with that which has been taking place of late from the dry zone Districts in the Irrawaddy basin; in fact, there is practically no emigration to the delta. On the other hand, there has been a very considerable immigration from Meiktila and Myingyan Districts. About 94 per cent. of the people are Buddhists. Musalmāns number nearly 8,000, and Hindus and Animists rather more than 2,000 each. The number of Burmese speakers in 1901 was 234,569. Karen is spoken in the hills.

Township.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Yamethin	1,117	1	315	67,872	61	− 4	12,782
Pyawbwe	324	...	211	42,495	131	+ 2	9,285
Yindaw	560	...	241	40,694	73	+ 7	7,293
Pyinmanā	1,474	1	308	61,578	42	+ 34	12,838
Lewe	783	...	209	30,558	39	+ 196	7,379
District total	4,258	2	1,284	243,197	57	+ 18	49,577

In 1901 Burmans numbered 227,900, or 94 per cent. of the total population. Karens, the most northerly members of the race in Burma proper, inhabiting the hilly areas in the west of the Pyinmanā township, numbered 2,500 in 1901. A few Chins live in the Pegu Yoma in the west, and a few Taungthus and Taungyos among the Karens in the eastern hills. Shans are fairly evenly distributed over the hilly tracts in the east of the District, numbering 1,440 in 1901. There are about 10,000 Musalmāns and Hindus. Of this large total (greater than in any other District in Upper Burma, except Mandalay), only one-third are immigrants. A large proportion of the Musalmān population is made up of the members of a Muhammadan colony dating from about the beginning of the eighteenth century, the descendants of a force that came from Delhi to Arakan, and were subsequently scattered in various parts of the kingdom of Ava. The last Census showed that the population dependent upon agriculture was 170,860. The proportion borne by the agricultural to the total population varies considerably from township to township. It is lowest in Pyinmanā (62 per cent.) and highest in Yindaw (88 per cent.), the average for the whole District being 70 per cent.

The number of Christians in 1901 was 1,002, nearly equal to the

total in the other three Districts of the Division added together. This is due to the existence of a large number of Christian Karen villages. Native Christians numbered 827. The Roman Catholics and the American Baptists labour among the people, and have established schools at Pyinmanā and Yamethin.

Agriculture.

Though fertile valleys lie in the western hills, cultivation in the Yamethin subdivision is confined for the most part to the central valley and the uplands watered by the Chaungmagyi, Thitson, and Sinthe *chaungs*, the lowland being for the most part irrigated, and the uplands devoted to 'dry crops.' In the Pyinmanā or southern subdivision the narrow basins of the Mon and Ngalaik *chaungs* produce unirrigated rice and other crops, while the lower valleys of the Yonbin and a neighbouring waterway, the Yeni, and the wide plains drained by these two streams south of Pyinmanā consist of well-irrigated rice lands, this area really belonging to the wet zone of Burma. The principal agricultural implements in use are the plough (*te*) and the harrow (*tun*). Both are employed for tilling sugar-cane fields, and the harrow for all other cultivated lands. Rice is usually sown in nurseries and transplanted; but the seed for *mayin* (dry-season rice) is scattered broadcast in the tanks as they dry up, and in the case of hill rice sown on *taungyas* the seed is dropped into small holes made with a pointed bamboo. In the Yamethin subdivision cultivators usually assist each other in harvesting; but in Pyinmanā, where the landholders are wealthier, labour is for the most part hired. Sugar-cane rotates with early sesamum (three or four months' rest being allowed for the land) in alternate years, while over a considerable area early sesamum and rice are cropped on the same land in one year. *Jowār* is planted in August and September, and harvested in January and February. Maize, like rice, is grown in two crops, dry-season and wet-season respectively, and a similar practice is adopted in the case of peas and beans. Other crops garnered between January and March are chillies, tomatoes, tobacco, and brinjāls.

The following table gives the main agricultural statistics for 1903-4, in square miles:—

Township.	Total area.	Cultivated.	Irrigated.	Forests.
Yamethin . .	1,117	104	108	2,032
Pyawbwe . .	324	58		
Yindaw . .	560	78		
Pyinmanā . .	1,474	76		
Lewe . . .	783	56		
Total	4,258	372	108	2,032

Rice (for the most part *kaukkyi*) was grown on 236 square miles in 1903-4, and early sesamum covered 74 square miles and *jowār*

50 square miles. Compared with the neighbouring dry zone Districts, the area under crops like cotton, chillies, and pulse is comparatively insignificant. Garden cultivation, represented mainly by plantains, covers only 1,600 acres; and even this area shows a tendency to decrease. The area under sugar-cane, which was 3,200 acres in 1902–3, fell to 1,600 acres in the following year. Large stretches of waste are brought for the first time under the plough every year, the greater part of the new land being planted with rice.

Experimental cultivation is undertaken on a small scale. Various kinds of melons from India have been tried, but their success has not been uniform. Experiments are now being made with ground-nuts, which have succeeded well in the adjoining District of Magwe, and with Havana and Virginian tobacco seed. Loans under the Agriculturists' Loans Act are freely applied for. In 1902–3 Rs. 30,000, and in 1903–4 Rs. 49,000, was advanced under the provisions of this enactment.

The cattle are of a fair type. They are nearly all of Burmese breeds, though a few natives of India possess Indian beasts. Bullocks are used for ploughing in the Yamethin subdivision, the use of buffaloes being confined to the wetter Pyinmanā areas where the soil is heavier. Sheep are fairly numerous in the Yindaw and Pyawbwe townships. There are no recognized grazing grounds, but no difficulty is experienced in rearing live-stock, owing to the large areas of uncultivable land.

The irrigated area is about 108 square miles. The Public Works department maintains numerous tanks in the north of the District, the largest being the Kyaukse and the Kyeni or Yamethin tanks. The former is situated 7 miles east of Pyawbwe, and is filled by the Samon and Shweda *chaungs*; its embankment is 3 miles long. The Kyeni tank, close to Yamethin on the east of the town, is on the watershed separating the Irrawaddy and Sittang river basins. It is fed by water from the eastern ranges of hills, and drains north and south into both basins. The area commanded by the Kyaukse tank is 5,000 acres, and by the other Government works about 37 square miles. The area actually irrigated by the former was 3,700 acres in 1903–4. Among the many irrigation works maintained by the cultivators themselves, the most important are the dams on the Chaungmagyi in the north-west of the Pyawbwe township, and on the Nyaunggaing and Mon streams south-east of Yamethin town. In the former, weirs of sand are raised annually to distribute the water into canals through the fields. In the other streams, the weirs are made of stones and sand, renewed every year. The Pyinmanā subdivision contains the Beikpeinbaung and Pyelonchantha tanks—the first 6 miles west of Pyinmanā, the second 2 miles west of Lewe; the Pe-don canal, running parallel to the Palwe

chaung; the Ela tank; and several minor tanks and weirs. Private canals irrigated 37 square miles, and private tanks 42 square miles, in 1903-4. The only important fisheries are the Paunglaung in the Pyinmanā, and the Sedongyi in the Lewe township.

Forests, &c.

The District limits are conterminous with those of the Pyinmanā Forest division, and the total area of 'reserved' forest in 1903-4 was 1,129 square miles. The Reserves are chiefly in the Pyinmanā subdivision, the largest being the Minbyin Reserve (197 square miles in extent), the Palwe (139 square miles), the Ngalaik (125 square miles), the Yonbin (122 square miles), the Sinthe (106 square miles), and the Taungnyo (105 square miles). The Yamethin subdivision contains the Myittha Reserve (90 square miles). The area of 'unclassed' forest in 1903-4 was 903 square miles. The Pyinmanā forests have long been famous for their richness in teak, which, with *pyingado* (*Xylia dolabriformis*), has of late been heavily worked. The latter timber has so far been extracted only from the more accessible parts of the forests, owing to difficulties of transport. Roads are, however, being made to facilitate its extraction from the Yonbin Reserve. Other trees of importance are the *in* (*Dipterocarpus tuberculatus*), the *thitya* (*Shorea obtusa*), the *ingyin* (*Pentacme siamensis*), and the *padauk* (*Pterocarpus indicus*). The most productive timber tracts are in the west, on the slopes of the Yoma, which contain a fair proportion of *indaing* jungle. The forests of the Yamethin subdivision are considerably less valuable than those of the more southern areas, the best being in the east on the spurs and in the valleys of the Shan plateau. At one time cutch-trees were abundant in parts, but only scrub jungle now remains, in which the trees are all small and of little value for boiling purposes. The forest revenue in 1903-4 amounted to 1·3 lakhs.

The mineral resources are poor. Saltpetre can be obtained in parts of the Yamethin subdivision from efflorescences, and the manufacture of salt still lingers on in certain areas in spite of the salt-tax. Clay for pottery is obtained near Pyinmanā. Laterite abounds, though it is not worked, but the extraction of marble from the hills to the east has commenced.

Trade and communications.

Silk-weaving is carried on to a small extent throughout the District, principally at Taungnyo, north-west of Pyinmanā, where silkworms are reared. The town of Pyinmanā itself is noted for its ornamental pottery. The inlaid metal-work (niello) of the District has a good deal of artistic merit. *Da* or knife blades are thus decorated with gold, silver, and brass at Mindan near Pyawbwe. The result is distinctly attractive, and the industry, though small, has earned a well-deserved reputation.

Ordinarily the internal trade presents no features of special interest; but in years of agricultural depression there is a brisk business in rice between the Yamethin and Pyinmanā subdivisions, when the dwellers in the northern uplands are glad to exchange their sesamum and millet for the rice of the wetter southern areas. The chief commercial centre is Pyawbwe on the railway, towards which a considerable portion of the trade with the Shan States along the Thazi-Taunggyi road moves. This trade is registered at Pyawbwe, and to a small extent also at Theingon in the extreme north-east corner of the District. The trade from the Shan States entering the District in the south is registered at Pyinmanā. The total value of the imports from the Shan States in 1903-4 was $15\frac{1}{4}$ lakhs, those coming in through Pyawbwe being valued at $10\frac{1}{2}$ lakhs, those through Theingon at $1\frac{3}{4}$ lakhs, and those following the tracks converging on Pyinmanā at 3 lakhs. The imports included lac ($3\frac{1}{4}$ lakhs), cattle ($2\frac{1}{2}$ lakhs), vegetables and fruits, varnish, turmeric, provisions of various kinds, and *thanatpet*. The exports to the Shan States in the same year were valued at 14 lakhs. They included European cotton piece-goods ($2\frac{1}{2}$ lakhs), salted fish (1 lakh), silk piece-goods (1 lakh), betel-nuts, salt, petroleum, woollen goods, cotton twist and yarn, brass- and iron-work, raw silk, and pickled tea. The imports from Rangoon are European and Indian goods. Petroleum and sesamum are imported from the neighbouring District of Magwe, betel-leaf and chillies from Meiktila, and betel-nuts from Kyaukse and Toungoo. Paddy, millet, maize, sesamum oil, bamboos, and Shan goods are sent to Rangoon, and bamboos to Meiktila and other places.

The main line of the Burma Railway passes through the middle of the District from south to north, having 14 stations within its limits. In the northern half of the District land communications are always open and easy, but this is not altogether the case in the south. The chief route to the Shan States is the Pyawbwe-Yinmabin road, which joins the Thazi-Taunggyi road in Meiktila District. Other caravan routes into the Shan States are from Yamethin through Nankwe and the Sindaung pass; from Tatkon via Kyaunggon; and from Tatkon via Kolon. On these routes pack-bullocks are mostly used. The total length of metalled roads in the District is 30 miles, and of unmetalled roads 234 miles. The only metalled road of any length is from Pyinmanā south-westwards to Lewe (10 miles). Of the total length of 264 miles, 190 miles are maintained from Provincial and 74 from Local funds.

Famine.

Since annexation the District has twice suffered from famine, in 1891 and 1896. There is no doubt that distress in these two years was chiefly due to the improvidence of the people. Formerly no market existed for a surplus crop, and the cultivators stored it; but now improved means of transport have

provided an easy way of converting the surplus crops into money, which is spent recklessly. In both 1891 and 1896 relief works were opened, and in 1896-7 a considerable number received assistance. The distress was not, however, so severe as in the adjoining District of Meiktila, where the conditions obtaining in the less-favoured northern areas of Yamethin prevail over practically the whole District.

Administration.

The District comprises two subdivisions: Yamethin, comprising the townships of YAMETHIN, PYAWBWE, and YINDAW; and Pyinmanā, comprising the townships of PYINMANĀ and LEWE. Under the subdivisional officer at Pyinmanā are two Karen States, Alechaung Bawgata and Padaung Koywa, situated in the extreme south-east of the District, which are autonomous but pay tribute at Pyinmanā. The townships are in charge of the usual executive officers, under whom are 782 village headmen. At head-quarters are an *akunwun* (in subordinate charge of the revenue), a treasury officer, and a superintendent of land records, with a staff of 5 inspectors and 52 surveyors. The District forms a subdivision of the Meiktila Public Works division, conterminous with the civil Division; and an Assistant Engineer is stationed at Yamethin, in charge of the Yamethin subdivision of the Eastern Irrigation division, the head-quarters of which are at Kyaukse.

The greater part of the civil work of the District court is done by the additional judge, an officer of the Provincial Civil Service, who resides half the month at Yamethin and half at Meiktila. The township courts are presided over in the first instance by the township officers, but additional judges have been appointed to all of them except that of Yindaw. The additional township judge, Yamethin, is also treasury officer and head-quarters magistrate. One of the additional judges divides his time between Lewe and Pyinmanā, and another between Pyawbwe and Wundwin (in Meiktila District). Crime in Yamethin is of the ordinary type; but robberies and dacoities show signs of increasing, and the District has long been a highway for opium smuggling.

Under Burmese rule the main sources of revenue were *thathameda*, the rent of state lands, water rate, and other minor imposts. *Thathameda* was first introduced in 1862, the rate then being Rs. 3 per household. Non-state land was not assessed till 1869-70, and in the Yamethin subdivision gradually ceased to pay revenue from 1878-9 onwards. A form of land revenue known as *pegun* was assessed by the *thugyis* over the greater part of the District at varying rates. In the Pyinmanā subdivision, south of the Ngalaik *chaung*, a tax was levied on each yoke of cattle or buffaloes used for ploughing. *Thathameda* gradually increased, as in other parts of Upper Burma, to Rs. 10 a household in the last years of the Mandalay régime. On the annexation

of Upper Burma the existing taxation was retained for a while in a modified form, but before long the land rate on non-state land was discontinued in the areas where it was still levied. In 1889-90 the rate per yoke of cattle was raised from Rs. 4-8 to Rs. 9; and in 1892-3 a water rate was levied in the Yamethin subdivision on irrigated non-state land. In 1892-3 the rates varied from 12 annas to Rs. 3 per acre on different kinds of land. A revenue settlement was commenced in 1898. The District has been divided for settlement purposes into fourteen tracts. The rates sanctioned differ considerably in the two subdivisions. In Yamethin they range, in the case of state rice land, from 10 annas to Rs. 4-8, and in the case of non-state rice land from 8 annas to Rs. 3-14 per acre, the rates levied on crops other than rice being the same for state and non-state land, and varying from 4 annas to Rs. 1-10. In the Pyinmanā subdivision state rice land pays from Rs. 1-2 to Rs. 4 an acre, the corresponding rates on non-state land ranging from 14 annas to Rs. 3. Other crops on rice land, *yas*, and *taungyas* are not differentiated into state and non-state. Sugar-cane and betel-vines are rated at from Rs. 6 to Rs. 10 per acre; and tobacco, onions, and chillies pay from Rs. 2-8 to Rs. 5.

The following table shows the growth in the revenue since 1890-1, in thousands of rupees :—

	1890-1.	1900-1.	1903-4.
Land revenue . .	13	54	3,37
Total revenue . .	5,46	5,94	6,32

After land revenue, *thathameda* is the most important item of receipt. Before the settlement it brought in more than land revenue.

The income of the District fund in 1903-4 was Rs. 43,000, six-sevenths of which was devoted to public works. YAMETHIN and PYINMANĀ are the only municipalities.

Under the District Superintendent of police are two Assistant Superintendents in charge of the subdivisions. There are 16 police stations and 7 outposts; and the force includes 3 inspectors, 15 head constables, 25 sergeants, and 523 rank and file. Pyawbwe is the head-quarters of a military police battalion, known as the reserve battalion, which numbers about 400 men, and is commanded by a commandant and an assistant commandant. One hundred military police under a *sūbahdār* are quartered at Yamethin, and 50 men under a *jemadār* at Pyinmanā. Yamethin possesses a District jail with accommodation for 119 prisoners, who are engaged in carpentry, painting, rope-making, and gardening.

The Census of 1901 showed that the proportion of literate persons in Yamethin was 39 per cent. in the case of males and 2 per cent. in

that of females, or 20 per cent. for both sexes together. Except a small survey school, no Government or municipal schools are maintained. Education is to some extent in the hands of religious bodies, and the Roman Catholic and Baptist schools are deserving institutions. In 1904 the District contained 2 special schools, 11 secondary, 113 primary, and 424 elementary (private) schools, with an attendance of 10,170 pupils (including 773 girls). The number of pupils has fallen somewhat of late, for the total was 3,537 in 1890-1 and 11,835 in 1900-1. The total expenditure on education in 1903-4 amounted to Rs. 16,600, Provincial funds contributing Rs. 11,900 and fees Rs. 4,200, the rest being made up of subscriptions.

There are three hospitals and a branch dispensary. These institutions have accommodation for 90 in-patients. In 1903 the number of cases treated was 33,079, including 692 in-patients, and 175 operations were performed. The income amounted to Rs. 8,500, municipal funds contributing Rs. 5,900, Provincial funds Rs. 1,900, and subscriptions Rs. 700.

Vaccination is compulsory only in the two municipalities of the District. During the year 1903-4 the number of persons successfully vaccinated was 10,856, representing 45 per 1,000 of the population.

[R. A. Gibson, *Settlement Report* (1902).]

Yamethin Subdivision.—Northern subdivision of Yamethin District, Upper Burma, comprising the YAMETHIN, PYAWBWE, and YINDAW townships.

Yamethin Township.—Township of Yamethin District, Upper Burma, lying on both sides of the Mandalay-Rangoon railway, between 20° 1′ and 20° 40′ N. and 95° 57′ and 96° 35′ E., with an area of 1,117 square miles. It contains one town, YAMETHIN (population, 8,680), the head-quarters of the District and township; and 315 villages. The population decreased from 70,782 in 1891 to 67,872 in 1901. Failure of harvests has caused a flow to the wetter southern subdivision and to other Districts. The greater part of the township consists of a dry undulating plain, covered with scrub jungle. On the east the hills bordering the Shan plateau are covered with productive forests. In 1903-4 the area cultivated was 104 square miles, and the land revenue and *thathameda* amounted to Rs. 1,14,000.

Yamethin Town.—Head-quarters of the District of the same name, Upper Burma, situated in 20° 25′ N. and 96° 9′ E., on the Mandalay-Rangoon railway, 112 miles from Mandalay and 275 miles from Rangoon. It is said to have been founded by king Anawrata of Pagan in the eleventh century A.D., but the legend has no historical foundation. The original name of the town is declared by some to have been Nwametathin ('a herd of black bullocks'); but others attribute its title to the colour of its water (*ye-me* = 'black water'),

which is darkened by the nitrous soil. The town occupies the highest point in the central plain of the District. Its immediate surroundings are flat, but it is within sight of the uplands of the Shan plateau. It contains the usual buildings and a large bazar. The civil station, comprising the courthouse, jail, club, and residences of the officials, lies to the west of the railway, while the business quarter, with the native town, is situated to the east of the line. A considerable amount of trade concentrates at Yamethin, which is the terminus of numerous Shan caravan routes and an important railway centre. The population increased from 6,584 in 1891 to 8,680 in 1901, and in the latter year included 1,994 natives of India. Yamethin was constituted a municipality in 1888. During the ten years ending 1901 the municipal income averaged between Rs. 17,000 and Rs. 18,000. In 1903-4 the receipts amounted to Rs. 23,700, the principal sources of income being bazar fees (Rs. 12,900) and house and land tax (Rs. 4,400). The expenditure was Rs. 22,000, the chief items of outlay being Rs. 3,000 spent on the hospital, and Rs. 4,000 on conservancy. The municipal hospital has 32 beds.

Yamkanmardi.—Town in the Chikodi *tāluka* of Belgaum District, Bombay, situated in 16° 8′ N. and 74° 32′ E., 21 miles north of Belgaum town. Population (1901), 4,556. The municipality, established in 1854, had an average income during the decade ending 1901 of Rs. 2,009. In 1903-4 the income was Rs. 2,200. The town is said to have been founded by Virpan Ambājī, a Kolhāpur *māmlatdār*, about 1780. It has about 300 looms, making women's *sārīs*, blankets, &c. A weekly market is held on Tuesday, when dry coco-nuts, dates, grain, wheat, and cloth are chiefly sold. In 1827 a number of Kolhāpur freebooters took refuge in the fort, but surrendered after some show of resistance. The town contains a boys' school with 197 pupils.

Yamnūr.—Town in the Navalgund *tāluka* of Dhārwār District, Bombay, situated in 15° 32′ N. and 75° 22′ E., 3 miles south-west of Navalgund town. Population (1901), 822. It is a place of pilgrimage, with an annual fair attended by 20,000 to 100,000 people. The fair is held in honour of Rājā Bāghsawār, a saint of Gulburga in the Nizām's Dominions, in March-April, and lasts four days. The saint derives his name of 'tiger rider' from his having ridden on a tiger to the encounter with another holy man who rode to meet him on a wolf. The story recalls the legend of Jnāneshwar and Chāngdeo of Alandi in Poona District. Yamnūr has been a temporary municipality since 1881, maintained by a pilgrim and shop tax, with an average income during the decade ending 1901 of Rs. 4,200. In 1903-4 the income was Rs. 3,600. The town contains a school.

Yān (or Bhairavkshetra).—Valley in the Kumta *tāluka* of North

Kanara District, Bombay, situated in 14° 35′ N. and 74° 35′ E., about 15 miles north-east of Kumta and midway between the Devīmane and Vaddi passes. Population (1901), 143. Yān is a beautiful valley almost encircled by spurs from the Western Ghāts. On the sea side it is shut in by the lofty Motigudda hills, from which a low woody range runs to the main line of the Ghāts. The valley, which is a noted place of pilgrimage, with shrines of Mahādeo and Pārvatī, is approached by two steep and difficult footpaths: one from Harita, about 8 miles to the south, the other from the Vaddi pass, about 3 miles to the north. The hills above give a fine view of the Yān valley and of the large-pinnacled limestone rocks rising over the tree-tops like the battlements of a castle. Several great masses stand out farther down the ravine, but the rock which gives the place its interest and sacredness is near the upper end of the pass. It rises about 150 feet, an enormous mass of black crystalline limestone, the sides roughened by exposure to the air. A path leads about half-way up the side of the rock to a great horizontal gap or cave-like fissure about 120 feet long, 10 broad, and 10 high. Bees, which are at times dangerous, have long combs hanging from a ledge high up on one of the corners of the rock; and in the clefts and hollows of the cliff-face flocks of bronze pigeons build, and by their noisy rapid flight add to the wildness of the scene. Near the middle of the cave, from a small ledge or knob of rock close to the roof, a small stream drips on a granite *lingam*. Close by are the dwellings of the Havik ministrants, who with their families live in the cave and perform the daily worship of Siva. To the south, a little below the chief gap or cavern, is a smaller cave with a bronze female figure 9 feet high of Chandi Amma, a local goddess whom the Brāhmans have adopted as a form of Pārvatī. Through the middle of the rocks flows a stream known from its clearness as Chandi, or the 'silver water,' and farther down as Anegundi, or the 'elephant's pool.' It falls into the Aghnāshini or Tadri river at Upinpattan, about 8 miles north-east of Kumta. At the great fair in the month of Māgh (February–March) large numbers of pilgrims visit Yān, especially women praying for children. Worship attended by people from the neighbouring villages begins on the dark tenth of Māgh and lasts for five days.

Yanam (French, *Yanaon*).—French Settlement within Godāvari District, Madras Presidency, situated in 16° 44′ N. and 82° 13′ E., about 12 miles from the mouth of the Gautami Godāvari, at the point where the Coringa river branches off from the main stream. The territory extends along the banks of these rivers, with an area of 5 square miles. Besides Yanam, four hamlets, Adivipālem, Kanakalapeta, Mettakūru, and Kursammapeta, are included in it. The population of the Settlement in 1901 was 5,005, compared with 5,327 in 1891.

Yanam is a comparatively modern town. The French first established a factory here about 1750, and the place was formally ceded to them in 1752. It shared the vicissitudes of the other FRENCH POSSESSIONS on the coast; and from 1793 onwards was, save for a short period in 1802–3, in the occupation of the English till the treaties of 1815 restored it to its former owners. In 1839 the town was laid waste by a hurricane which was accompanied by a great inundation of the sea. Subject to the control of the Governor of the French Possessions, who resides at PONDICHERRY, Yanam is administered by an official called the Administrator, who is assisted by an elective council of six members. The Administrator is the head of the magistracy and police, and president of the criminal court. Local affairs are managed by a communal council, also elective, of twelve members. There are two free schools, one for boys and the other for girls, having an attendance of 202 and 248 respectively. The area of cultivated land in the Settlement in 1903 was 664 hectares, or about 1,000 acres. Land is held in absolute ownership, subject to the payment of an assessment of Rs. 37-8 per candy (about 4½ acres) for cultivated land, and Rs. 5 for pasture land. Water for irrigation is supplied free of cost from the British canal which passes through Yanam. There is now little trade; in 1904 the exports were valued at only £900 and the imports at £2,600.

Yanbye.—Island, part of Kyaukpyu District, Lower Burma. *See* RAMREE.

Yandoon Subdivision.—Subdivision of Ma-ubin District, Lower Burma, consisting of the YANDOON and DANUBYU townships.

Yandoon Township.—Northern township of Ma-ubin District, Lower Burma, lying between 16° 51′ and 17° 15′ N. and 95° 35′ and 95° 55′ E., to the east of the Irrawaddy, with an area of 331 square miles. The head-quarters are at YANDOON (population, 12,779). The population was 58,508 in 1891, and 57,923 in 1901, Karens forming about one-fourth of the total. The number of villages is 81. In 1903–4 the cultivated area was 109 square miles, paying Rs. 1,60,000 land revenue.

Yandoon Town (Burmese, *Nyaungdon*, 'Banyan log or stump').—Head-quarters of the subdivision and township of the same name in Ma-ubin District, Lower Burma, situated in 17° 3′ N. and 95° 41′ E., about 60 miles north-west of Rangoon, on the left or east bank of the Irrawaddy at the junction of that stream with the Panhlaing creek. In 1891 Yandoon had a population of 20,235. Since then its numbers have decreased, and the Census of 1901 disclosed a total of only 12,779, or practically the population of 1881. The decrease may be attributed to erosion by the river, which has carried away a part of the town, and to the shifting of trade, which has resulted in immigration to more lucrative fields of labour lower down the delta.

Natives of India constituted rather more than 10 per cent. of the population in 1901. Yandoon was created a municipality in 1884. The receipts of the municipal fund during the ten years ending 1900-1 averaged Rs. 48,000, and the expenditure Rs. 50,000. In 1903-4 the municipal income was Rs. 46,000, chiefly derived from markets (Rs. 26,300) and conservancy tax (Rs. 5,400); and the expenditure was Rs. 52,000, including conservancy (Rs. 6,300), roads (Rs. 14,000), and hospital (Rs. 4,300). The municipal hospital has 20 beds. Yandoon is the chief centre in the District for the export of *ngapi* or fish-paste to all parts of Burma.

Yatsauk.—State in the Southern Shan States, Burma. *See* LAWKSAWK.

Yāval Tāluka.—*Tāluka* of East Khāndesh District, Bombay, lying between 21° 3′ and 21° 24′ N. and 75° 31′ and 75° 53′ E., with an area of 250 square miles. It contains two towns, YĀVAL (population, 11,448), the head-quarters, and FAIZPUR (10,181); and 75 villages. The population in 1901 was 82,299, compared with 80,489 in 1891. This is the most thickly populated *tāluka* in the District, with a density of 329 persons per square mile. The demand for land revenue in 1903-4 was 1·7 lakhs, and for cesses Rs. 12,000. The *tāluka* consists of a rich well-wooded plain stretching southwards from the Sātpura hills.

Yāval Town (or Byāwal Sākli).—Town in the Yāval *tāluka* of East Khāndesh District, Bombay, situated in 21° 10′ N. and 75° 42′ E., 12 miles west of Sāvda. Population (1901), 11,448. Yāval formerly belonged to Sindhia, who gave it in grant to the Nimbālkar about the year 1788. By an agreement in 1821 with the son of the grantee, the British Government obtained possession of the town. In 1837 Yāval was restored to Sindhia, but again became British in 1843. The Nimbālkars provided the town, when it was in their possession, with a fort, which is still in good repair. Yāval was once famous for its manufacture of coarse native paper and for its indigo. Paper is no longer manufactured here. There are remains of indigo vats in the neighbourhood. Salt-pans can also be seen about 3 miles outside Yāval. The municipality was established in 1883. Its income during the decade ending 1901 averaged Rs. 8,700. In 1903-4 the income was Rs. 9,600. The town contains three cotton-ginning and pressing factories, besides a Subordinate Judge's court, a dispensary, and five schools with 537 pupils, of which one, with 37 pupils, is for girls.

Yawnghwe (Burmese, *Nyaungywe*).—One of the most important of the Southern Shan States, Burma, lying between 20° 9′ and 21° 5′ N. and 96° 43′ and 97° 20′ E., with an area (including its dependencies) of 1,392 square miles. It is bounded on the north by the State of Lawksawk and its dependency Möngping; on the west by the Myelat

division; on the south by Namhkai, Samka, and the Tamhpak dependency of Hsahtung; and on the east by Hsahtung, Wanyin, Nawngwawn, Namhkok, Hopong, and a detached circle of Möngnai. Its dependencies are Laihsak (Burmese, *Letthet*), in the extreme north-east; Anglewa (Burmese, *Inleywa*), at the end of the Inle Lake; Kyawktap (Burmese, *Kyauktat*), in the north-west corner; and Hsihkip (Burmese, *Thigyit*), isolated in the Myelat territory. The eastern half of the State is hilly, the Loi Sang range running north and south throughout its entire length, and rising above 6,000 feet in places. Its western slopes are steep, but eastwards it falls away gently in grass-covered downs to the valley of the Nam Tamhpak. The western half is a wide valley sloping towards the great Inle Lake, which overflows in the Nam Pilu (Balu *chaung*), a tributary of the Nam Pawn. The climate in the valley is similar to that of Kengtung, but the hills are much healthier. Rice is the staple crop, the lands near the Inle Lake being very fertile and also producing sugar-cane. Betel-vines are grown near the irrigation channels; on the higher land ground-nut is the main crop, and the more elevated slopes produce the ordinary *taungya* rice, which is the only crop grown in the eastern half of the State. Wheat has been tried, but, though it has done well, difficulty has been found in obtaining a market for the grain. The population of the State in 1901 was 95,339, distributed in 1,091 villages. The inhabitants are practically all Buddhists, and 50,399 returned themselves as Burmese speakers, a large proportion of this total being Danus. The Taungthu speakers numbered 25,810, and the Shan speakers 16,583. The balance of the population is made up of Inthas, Danus, Chinese, and a few natives of India. The capital is Yawnghwe (population, 3,804), near the head of the Inle Lake, an unpretentious village surrounded by 'wet' rice cultivation. Higher up the valley on the eastern slopes is TAUNGGYI, the administrative head-quarters of the Southern Shan States. A few miles to the south of the capital, on the Inle Lake, is Fort Stedman, till recently the head-quarters of a native regiment, now withdrawn. The revenue of the State in 1903-4 was made up of *thathameda* (Rs. 1,18,000), land taxes of various kinds (Rs. 52,500), obtained from bazars (Rs. 17,600), and tax on the lake fisheries (Rs. 5,700): total, Rs. 2,13,000, including paddy, valued at one rupee per basket. The expenditure included Rs. 65,000 paid as tribute to the British Government, Rs. 78,000 spent on administration, Rs. 44,000 made over to the privy purse, Rs. 15,000 spent on public works, and Rs. 12,000 on the pay of officials. The present Sawbwa, Sao Mawng, was created C.I.E. in 1908.

Ye.—Township of Amherst District, Lower Burma. *See* YELAMAING.

Yebyu.—Northernmost township of Tavoy District, Lower Burma,

lying between 14° 7′ and 15° 6′ N. and 97° 46′ and 98° 35′ E., with an area of 1,842 square miles. It forms an irregular triangle, with its eastern and western sides bounded respectively by Siam and the Bay of Bengal, and its base in the south marching with the borders of the Tavoy and Launglon townships. Except along the valley of the Tavoy river, it is a mass of hills. The head-quarters are at Yebyu, an inland village of 269 inhabitants, at its southern end, on the banks of the Tavoy river. The population in 1891 was 11,270, and in 1901, when it was known as the Northern township, 12,550. The density is only 7 persons per square mile. It contained in 1901 a total of 55 villages. The area cultivated in 1903–4 was 22 square miles, paying Rs. 17,000 land revenue.

Yedashe. — North-western township of Toungoo District, Lower Burma, lying between 19° 6′ and 19° 28′ N. and 95° 48′ and 96° 28′ E., with an area of 925 square miles. The greater part of the township lies west of the Sittang, and extends to the Pegu Yoma; and only the plain of the Sittang, about 12 miles in width, is extensively cultivated, the rest of the township being hilly. The population was 31,715 in 1891, and 42,456 in 1901, distributed in 235 villages. The head-quarters are at Yedashe (population, 2,599), on the railway north of Toungoo. The area cultivated in 1903–4 was 64 square miles, paying Rs. 71,000 land revenue.

Yedatore.—North-western *tāluk* of Mysore District, Mysore State, lying between 12° 24′ and 12° 39′ N. and 76° 8′ and 76° 30′ E., with an area of 236 square miles. The population in 1901 was 82,330, compared with 74,262 in 1891. The *tāluk* contains three towns, Sāligrāma (population, 2,744), Yedatore (2,706), the head-quarters, and Mirle (2,602); and 177 villages. The land revenue demand in 1903–4 was Rs. 1,97,000. The Cauvery flows through the *tāluk* from north-west to south-east, receiving the Hemāvati from the north, and the Lakshmantīrtha from the south. The great feature of the *tāluk* is the irrigation from river channels drawn from dams on the Cauvery. There is also a dam on the Lakshmantīrtha. About 140 tanks exist, 10 of which are large. The country is gently undulating, with neither hills nor jungle. Low scrub is met with on high ground, and sometimes groves of wild date-palms occur in the valleys. The soil is not of a high class. Only one crop of rice is raised in the year. *Rāgi* is the principal 'dry crop.' Tobacco is grown at Byādarhalli. The areca gardens suffered greatly in the famine of 1878.

Yedenālknād. — *Tāluk* stretching across Coorg, Southern India, immediately to the south of the Cauvery river. It lies between 12° 4′ and 12° 23′ N. and 75° 43′ and 76° 12′ E., with an area of 201 square miles. The population rose from 36,123 in 1891 to 43,412 in 1901.

The *tāluk* contains one town, VĪRARĀJENDRAPET (population, 4,283), the head-quarters; and 52 villages. The Cauvery forms the northern boundary, and the Kallu river part of the western. The west is crossed by the Ghāt range, and on the east frontier is the Siddesvara hill, between which and the Ghāts extends an irregular chain of hills in a south-western direction across the *tāluk*, separating the basin of the Cauvery from that of the Lakshmantīrtha, and containing many prominent peaks. This *tāluk* is considered the focus of Coorg life, and most of the leading families reside here. It contains the most fertile rice-fields in Coorg, and also extensive coffee plantations, European and native. On the Periambādi *ghāt* are still some fine forests, and in Beppunād is a dense Devara-kādu called Kariarbana ('blackest jungle'), sacred to Beturappa, which the natives through superstitious dread never enter. In Ammattinād is what is called the 'bamboo district,' 13 miles square, remarkable for the luxuriant growth of its coffee, which but for the devastation of the borer would have been the most productive in Coorg.

Yegyi. — Township in Bassein District, Lower Burma. *See* NGATHAINGGYAUNG.

Yelahanka.—Town in the Bangalore *tāluk* of Bangalore District, Mysore, situated in 13° 6′ N. and 77° 36′ E., 10 miles north of Bangalore city by rail. Population (1901), 2,437. It is historically interesting as one of the oldest places in the District. As Ilaipākka under the Cholas, and Elahakka under the Hoysalas, it gave its name to the surrounding country. It was the first possession of the Kempe Gauda line of chiefs, who founded Bangalore and became identified with Māgadi and Sāvandurga. Jaya Gauda, their progenitor, obtained the title of Yelahanka Nād Prabhu about 1420, and the place was held by his family for 230 years, when it was captured by Mysore. It became a municipality in 1870, and was converted into a Union in 1904. The receipts and expenditure during the ten years ending 1901 both averaged Rs. 1,050. In 1903–4 they were Rs. 1,200 and Rs. 1,500.

Yelamaing.—Southernmost township of Amherst District, Lower Burma, on the borders of Tavoy, lying along the coast, between 14° 56′ and 15° 38′ N. and 97° 43′ and 98° 13′ E., with an area of 1,258 square miles, most of which is hilly and jungle-clad. The population increased from 18,158 in 1891 to 25,973 in 1901, distributed over 50 villages. The head-quarters are at Ye, a small town of 3,500 inhabitants, situated on the wide estuary of the Ye river, which has regular steamer communication with Moulmein and other coast ports. The area cultivated has increased by 130 per cent. in ten years, and in 1903–4 was 73 square miles, paying Rs. 56,700 land revenue.

Yelandūr.—*Jāgīr* in the south-east of Mysore District, Mysore State, lying between 11° 53′ and 12° 8′ N. and 76° 59′ and 77° 11′ E.,

with an area of 102 square miles. The population in 1901 was 35,271, compared with 31,784 in 1891. The *jāgīr* contains one town, Yelandūr, the head-quarters, and 27 villages. This small but rich tract is one of the most fertile and densely populated in Mysore. On the east the BILIGIRI-RANGAN HILLS (highest peak 4,195 feet) run for about 10 miles north and south, covered with valuable forest and inhabited by the wild Sholigas. The rest of the *jāgīr*, north-west of these hills, is one compact level stretch of land, traversed from south to north by the Honnu-hole or Suvarnāvati, the sole source of irrigation. Except at the foot of the hills, the best quality of black soil prevails. In the east near the hills the soil is also good, being red and sandy. The garden crops are chiefly betel-vine, areca-nut, coco-nut, and mulberry, the latter grown on all kinds of land. Sugar-cane is irrigated from the larger tanks, and rice from the smaller. *Jola* is the staple 'dry crop'; there is very little *rāgi*. Much silk is produced and piece-goods are made; also brass lamps and vessels at Yeragamballi. The goods are principally sold at the markets of Santemarahalli (Chāmrājnagar *tāluk*) and Kollegāl (Coimbatore District). The Ganga, Chola, and Hoysala kings in turn ruled this part of the country. It was included in a principality called Padinād or Hadinād, and so continued under Vijayanagar. The last Rājā was in alliance with the Mysore and Kalale chiefs, his daughter being married to one of the latter. The Yelandūr *pandit* was Chikka Deva Rājā's faithful companion during his captivity at Hangala, before he came to the Mysore throne in 1672. The Lingāyat poet Shadakshara-deva, who wrote the *Rājasekharavilāsa* in 1657 and other well-known poems, belonged to the Danagūr *math* near Yelandūr. In 1807 Yelandūr was conferred as a *jāgīr* on the Dīwān Pūrnaiya for his eminent services to the State, and it is now held by his descendants, the recent Dīwān of Mysore being the head of the family. Yelandūr town, the chief place in the *jāgīr*, stands on the Honnu-hole, and has a population (1901) of 3,803. An inscription of the seventeenth century explains the name as Yeleyindūr, 'town of the young moon.' It is a thriving place, with many well-to-do inhabitants, and contains the *jāgīrdār's* residence and a Gaurīsvara temple, with good carving.

Yellamanchili.—Head-quarters of the Sarvasiddhi *tāluk* in Vizagapatam District, Madras, situated in 17° 33′ N. and 82° 52′ E. Population (1901), 6,536.

Yellandlapād Sub-tāluk.—Sub-*tāluk* in Warangal District, Hyderābād State, with an area of 618 square miles. The population in 1901, including *jāgīrs*, was 45,340, compared with 38,649 in 1891. This sub-*tāluk* was formed in 1892 from the Khammamett, Madhra, and Mahbūbābād *tāluks*. It contains one large mining town, YELLANDLAPĀD (population, 12,377), the head-quarters; and 61 villages, of which

10 are *jāgīr*. The well-known coal-mine of Singareni is situated close to the town. The land revenue in 1901 was Rs. 42,000.

Yellandlapād Town.—Formerly a small hamlet, but now a town with a large mining population, and the head-quarters of the sub-*tāluk* of Yellandlapād, in Warangal District, Hyderābād State, situated in 17° 31′ N. and 80° 16′ E. Population (1901), 12,377. The coal-mining industry is responsible for the growth of the town, the Singareni coal-fields lying in the neighbourhood. A special magistrate has been appointed for the trying of cases. The mines are served by a mineral line which connects them with Dornakal on the Nizām's State Railway. The production of coal at Singareni increased rapidly from 3,259 tons in 1887 (the first year of working) to 144,668 in 1891, and 421,218 in 1901. In 1904 the total output was 419,546. The mines employ about 6,360 hands. Yellandlapād contains, besides the *tahsīl* office, a sub-post office and a police sub-inspector's office.

Yellāpur.—North-eastern *tāluka* of North Kanara District, Bombay, lying between 14° 43′ and 15° 9′ N. and 74° 26′ and 75° 5′ E., with an area of 760 square miles. There are 196 villages, but no town. The head-quarters are at Yellāpur. The population in 1901 was 39,553, compared with 40,010 in 1891. The *tāluka* is more thinly populated than the rest of the District, with a density of only 52 persons per square mile. The demand for land revenue in 1903–4 was 1·05 lakhs, and for cesses Rs. 7,000. The east and north-east of the *tāluka* are bordered by plain country; but, except for a few detached fields and gardens, the greater part is forest. The west is full of forest-clad hills, occasionally crossed by streams and watercourses. In the valleys and along the sides of the watercourses are rice and sugar-cane fields, as well as areca-nut and coco-nut palm gardens. The south, which is also hilly, is fertile, and where water is available, produces excellent areca-nut and coco-nut. The chief rivers are the Bedti and Kālīnadi, which are joined by many small streams. The annual rainfall is fairly heavy, averaging 99 inches.

Yellāreddipet.—*Tāluk* in Nizāmābād District, Hyderābād State. In 1901 the area was 218 square miles, and the population, including *jāgīrs*, was 35,514, compared with 36,810 in 1891. It contained 89 villages, of which 19 were *jāgīr*, Yellāreddipet (population, 3,065) being the head-quarters. The land revenue in 1901 was 2 lakhs. By the changes made in 1905 this *tāluk* has received a number of villages from the former Bānswāda *tāluk*, and from Medak and Rāmāyampet in Medak. The Mānjra river forms its western and southern boundary.

Yellavaram.—Minor *tāluk* in the Agency tract of Godāvari District, Madras, lying between 17° 18′ and 18° 4′ N. and 81° 44′ and 82° 16′ E., with an area of 950 square miles. The population in 1901 was 29,681. It contains 297 villages, all of which are very small,

Addatigala being the head-quarters. The demand for land revenue and cesses in 1903–4 amounted to Rs. 20,900. The whole of the *tāluk* is hilly and, except in the fifteen settled villages adjoining the plains, is covered with dense forest. The Government forests alone have an area of 165 square miles, while those in the various estates cover 300 square miles. Most of the Government villages are rented out annually. The chief crops are rice, pulses, and oilseeds; but the hill people depend mainly on the produce of tamarinds, which grow to a large size. The Guditeru *muttah* (estate), which was transferred to this District from Vizagapatam in 1881, forms part of the *tāluk*.

Yemmiganūr.—Town in the Adoni *tāluk* of Bellary District, Madras, situated in 15° 47′ N. and 77° 29′ E., 18 miles north-east of Adoni. Population (1901), 13,890. It is the head-quarters of a deputy-*tahsīldār*, is the fourth most populous place in the District, and during the last thirty years has grown faster than any of the other large towns, its population having increased by as much as 89 per cent. The chief industry is the weaving of cotton and mixed silk and cotton cloths for women. It is said that at one time the industry had almost died out, but that it was revived by the efforts of Mr. F. W. Robertson, Collector of the District from 1824 to 1838, who among other measures brought over to the place a number of weavers from the Nizām's Dominions. The Yemmiganūr cloths are now much esteemed and are exported as far as South Kanara.

Yenangyaung.—North-western subdivision and township of Magwe District, Upper Burma, lying along the Irrawaddy, between 20° 21′ and 20° 37′ N. and 94° 48′ and 95° 5′ E., with an area of 119 square miles. The chief feature of the township, which consists of dry rolling upland, is its oil-field, the largest in Burma, details of which are given in the article on MAGWE DISTRICT. The population was 23,014 in 1891, and 17,973 in 1901, distributed in 42 villages, the head-quarters being at Yenangyaung (population, 3,246), about 29 miles above Magwe on the eastern bank of the Irrawaddy. In 1903–4 the area cultivated was 30 square miles, and the land revenue and *thathameda* amounted to Rs. 67,000.

Yengan (Burmese, *Ywangan*).—One of the most northerly of the States in the Myelat division of the Southern Shan States, Burma, lying between 20° 55′ and 21° 14′ N. and 96° 13′ and 96° 38′ E., with an area of 400 square miles. It is bounded on the north by Maw; on the east by Lawksawk and Pangtara; on the south by Pangtara and Kyawkku; and on the west by the Meiktila and Kyaukse Districts of Upper Burma. The eastern portion consists of dry undulating downs, while the western is hilly and watered by the Panlaung river and its affluents. Separating the State from Burma is a lofty barrier of mountains, in places over 5,000 feet in height. The population in 1901 was

9,958 (distributed in 71 villages), of whom over 7,000 were Shan-Burmans or Burmans, about 1,500 Taungthus, and the rest Shans, Palaungs, and other hill tribes. The residence of the Ngwegunhmu is at the village of Yengan (population, 1,158), towards the north of the State. The revenue in 1904-5 amounted to Rs. 9,800, and the tribute to the British Government is Rs. 5,000.

Yenur (or Venūr).—Village in the Mangalore *tāluk* of South Kanara District, Madras, situated in 13° 1′ N. and 75° 9′ E. Its former importance is attested by numerous remains, the most remarkable being a colossal monolithic Jain statue, 37 feet high, similar to that at KĀRKALA but smaller, which was constructed in 1603. The population in 1901 was only 628.

Yeola Tāluka.—South-eastern *tāluka* of Nāsik District, Bombay, lying between 19° 57′ and 20° 12′ N. and 74° 16′ and 74° 44′ E., with an area of 410 square miles. It contains one town, YEOLA (population, 16,559), the head-quarters; and 119 villages. The population in 1901 was 56,584, compared with 65,812 in 1891. The density, 138 persons per square mile, is almost equal to the District average. The demand for land revenue in 1903-4 was nearly one lakh, and for cesses Rs. 8,500. Except for a few small barren hills, Yeola is generally flat; the soil is poor and stony, save in the south-west, where it is very fertile. The highest point is the hill of ANKAI in the north, which rises 3,182 feet above sea-level. The agricultural wealth of the *tāluka* is small. Water is scanty, especially in the northern villages which lie near the water-parting of the Girnā and the Godāvari. The annual rainfall averages 23 inches.

Yeola Town.—Head-quarters of the *tāluka* of the same name in Nāsik District, Bombay, situated in 20° 3′ N. and 74° 30′ E., on the Dhond-Manmād chord line, 13 miles south of Manmād station, on the north-east section of the Great Indian Peninsula Railway. Population (1901), 16,559. The municipality, established in 1858, had an average income during the decade ending 1901 of Rs. 45,000. In 1903-4 the income was Rs. 43,500, including proceeds of sale of Government securities (Rs. 9,400) and receipts from octroi (Rs. 12,000). Yeola owes its importance to its trade in the silk and cotton goods woven here, and also to its manufacture of gold and silver brocade. The silk looms number 600, employ 1,800 persons, and produce annually fabrics valued at 6 lakhs. Cotton looms number 3,000, employ 7,000 persons, and produce annually cloth valued at 18 lakhs. The manufacture of gold wire gives employment to 500 persons, and is valued annually at 1 lakh. Including the suburbs of Nagda and Baltegaon, these industries employ nearly 10,000 people. At the time of its foundation, Yeola was under the emperor of Delhi; subsequently it passed into the hands of the Rājās of Sātāra, and then of the Pesh-

wās. Mādhu Rao Peshwā finally gave it in grant with numerous other villages to Vithal, the ancestor of the present chief of Vinchūr. It is surrounded by a dilapidated mud wall. It contains a Subordinate Judge's court, an English school, and a dispensary.

Yeotmāl District.—District in Berār. *See* WŪN DISTRICT.

Yeotmāl Tāluka.—Head-quarters *taluk* of Yeotmāl District (formerly known as Wūn), Berār, lying between 20° 9′ and 20° 41′ N. and 78° and 78° 34′ E., with an area of 908 square miles. The population fell from 124,429 in 1891 to 124,031 in 1901, its density being 136 persons per square mile. The *tāluk* contains 293 villages and only one town, YEOTMĀL (population, 10,545), the head-quarters. The demand for land revenue in 1903–4 was Rs. 1,75,000, and for cesses Rs. 3,000. The *tāluk* lies chiefly in the Bālāghāt or southern plateau of Berār; but a broad belt of land on the north lies in the central valley, and on the north-east the valley of the Wardhā, which bounds the *tāluk* on that side, resembles in its characteristics the fertile land of the Pāyānghāt.

Yeotmāl Town.—Head-quarters of the District and *tāluk* of the same name in Berār, situated in 20° 24′ N. and 78° 11′ E., at an elevation of 1,476 feet. Population (1901), 10,545. The original name of the place was Yewata, and the termination is a corruption of *mahall* ('*pargana* town'). In the *Ain-i-Akbarī* the *pargana* is styled Yot-Lohāra, Lohāra being an old village 3 miles to the west of Yeotmāl. There is a good specimen of a Hemādpanti temple at Yeotmāl. Municipal government was first introduced in 1869, but had to be abandoned as the place could not support it. It was again introduced in 1894, with a proportion of elected members, but the elective system was subsequently given up as unsuitable to the conditions. The receipts and expenditure of the municipality from 1894 to 1901 averaged Rs. 11,000. In 1903–4 the income was Rs. 16,517, principally derived from taxes and cesses; and the expenditure was Rs. 17,226, the principal heads being conservancy and education. The place was a village of no importance until it was selected for its position as the head-quarters of Wūn District, now (1905) Yeotmāl District. Since that time its population and trade have increased rapidly. It is connected with Dhāmangaon railway station, 29 miles distant, by a metalled road, and contains 10 ginning factories and 7 cotton-presses.

Yercaud (*Er-kād*='lake-wood').—Sanitarium on the Shevaroy Hills, in the District and *tāluk* of Salem, Madras, situated in 11° 49′ N. and 78° 12′ E., at an elevation of 4,828 feet above sea-level. Population (1901), 7,787. It is steadily growing in favour as a hot-season resort, and contains good accommodation for visitors. The scenery is of great variety and beauty, and includes the charm (not obtainable in Ootacamund and Kodaikānal, for example) of views, from

almost every point, over the plains below. The climate is delightful and equable, seldom rising above 75° and never falling much below 60°; and interesting excursions can be made to many points of interest. All round are the coffee estates of European planters. It is easily reached by the cart road recently opened from Salem railway station, distance 20 miles.

Yergara.—Former *tāluk* of Raichūr District, Hyderābād State. *See* MĀNVI, RAICHŪR, and DEODRUG *tāluks*.

Yernagūdem Tāluk.—Upland *tāluk* in Kistna District, Madras, lying between 16° 48′ and 17° 19′ N. and 81° 3′ and 81° 45′ E., on the right bank of the Godāvari river, with an area of 568 square miles. The population in 1901 was 140,048, compared with 136,209 in 1891. The number of villages is 115, of which Kovvūr is the head-quarters. The demand on account of land revenue and cesses in 1903–4 amounted to Rs. 2,89,000. To the south, and where it approaches the Godāvari river, the country is flat, but elsewhere it is uneven, rocky, and covered with much low jungle. The more northern portions are malarious. The Yerrakālva, a small river running through the centre of the *tāluk*, is the principal source of irrigation. The chief crops are rice, *cholam*, pulses, and oilseeds.

Yesagyo.—Eastern township of Pakokku District, Upper Burma, lying between 21° 24′ and 21° 52′ N. and 95° 4′ and 95° 21′ E., along the banks of the Irrawaddy and Chindwin, with an area of 564 square miles. The township is flat, except in the west, and large portions of it are liable to inundation. The population was 53,795 in 1891, increasing to 87,797 in 1901, distributed in 238 villages. The head-quarters are at Yesagyo (population, 3,522), for some time a municipality, and still a thriving trade centre with a large bazar, on the Chindwin, about 26 miles from Pakokku town. The rainfall is very scanty, but the density of population is comparatively high. The area cultivated in 1903–4 was 134 square miles, and the land revenue and *thathameda* amounted to Rs. 2,23,000.

Ye-u Subdivision.—Subdivision of Shwebo District, Upper Burma, containing the YE-U, TABAYIN, TAMADAW, and TAZE townships.

Ye-u Township.—Central township of Shwebo District, Upper Burma, lying along the bank of the Mu river, between 22° 41′ and 22° 56′ N. and 95° 15′ and 95° 30′ E., with an area of 140 square miles. The population was 20,073 in 1891, and 24,190 by 1901, distributed in 140 villages. Ye-u (population, 2,504), on the Mu river, the head-quarters, was formerly the head-quarters of a District of the same name. The area cultivated in 1903–4 was 13 square miles, and the land revenue and *thathameda* amounted to Rs. 44,500.

Yindaw.—North-western township of Yamethin District, Upper Burma, lying between 20° 13′ and 20° 47′ N. and 95° 34′ and 96° 2′ E.,

with an area of 560 square miles. The population was 37,890 in 1891, and 40,694 in 1901, distributed in 241 villages, Yindaw (population, 2,427), on the road northwards from Yamethin, being the head-quarters. The township marks the northern limit of the Pegu Yoma, which here consists of barren hills separated by fertile valleys. In 1903–4 the area cultivated was 78 square miles, and the land revenue and *thathameda* amounted to Rs. 59,000.

Yinmabin.—Subdivision of the Lower Chindwin District, Upper Burma, lying for the most part west of the Chindwin river. It comprises the KANI, SALINGYI, and PALE townships. The head-quarters are at Yinmabin (population, 643), in the Salingyi township, about 16 miles west of Monywa on the opposite bank of the Chindwin.

Yūsufzai.—The term Yūsufzai, properly speaking, includes the whole territory held by the Yūsufzai tribe of Pathāns in the North-West Frontier Province, which extends beyond Peshāwar District into the Political Agency of Dīr, Swāt, and Chitrāl, and includes the valleys of Panjkora, DĪR, BASHKAR, SWĀT, and BUNER. According to the Pathāns themselves, however, Yūsufzai applies only to Dīr, Swāt, and Buner, including the Chamla valley. Yūsufzai is also the name adopted for a subdivision in Peshāwar District comprising the two *tahsīls* of Mardān and Swābi. In the north of the subdivision are three main valleys and minor glens almost surrounded by rugged hills. South of these lies a large plain separating them from the low ridge called the Sar-i-Maira, which slopes towards the centre and drains into the Kalpāni and the valley of the Indus to the east of that ridge. It consists of the six *tappas* or minor divisions of Baezai, Kamālzai, Amāzai, Razzar, Utmān, and Bolak. The Baezai *tappa* formed the battle-ground between the descendants of Yūsuf and Mandan. The Utmān Khel and Khattak tribe were called in on both sides as mercenaries, and ended by taking possession of the greater part of the Baezai valley themselves. The celebrated Takht-i-Bhai ruins are in this *tappa*. The chief village is Landkhwar. Communication with Swāt is kept up through the Mora Shākot and Malakand passes. The villages of Mardān and Hoti are in the Kamālzai *tappa*. The Amāzai *tappa* is surrounded on three sides by hills; it is often called the Sadhum valley, and is watered by the Makām river. The chief village is Rustam, at which there is a police station. The people of the Razzar *tappa* are all descendants of Mandan. It contains several large villages, and a police station at Kalu Khān. The chief village of Utmān is Swābi, which contains a *tahsīli* and police station. The Bolak *tappa* is entirely Khattak, and does not properly belong to Yūsufzai at all, having been joined to the Swābi *tahsīl* for administrative reasons. Besides the Makām river, the subdivision is watered by another considerable stream, the Kalpāni, which takes its rise in the

Mora pass, flows past Mardān and Hoti, is afterwards joined by the Makām, and finally falls into the Kābul river opposite Naushahra cantonment. The soil consists of a fine alluvial deposit, covered in large part with luxuriant verdure. The SWĀT RIVER CANAL, opened in 1885, affords ample irrigation to the greater part of the Mardān *tahsīl*, and there is a certain amount of irrigation from wells.

Ywataung.—Town in Thayetmyo District, Burma. *See* ALLANMYO.

Zafarābād.—Town in the District and *tahsīl* of Jaunpur, United Provinces, situated in 25° 42′ N. and 82° 44′ E., on the right bank of the Gumtī, and on the Oudh and Rohilkhand Railway, 5 miles south-east of Jaunpur city; a branch to Allahābād has recently been opened. Population (1901), 3,618. According to local tradition, the town was formerly known as Manaich, and contained forts named Asnī and Rātāgarh. It has recently been suggested by Major Vost that Manaich is to be identified with the Manaj, Munj, &c., of the Musalmān historians, which was stormed by Mahmūd of Ghazni in 1019[1]. During the next 170 years the town was included in the kingdom of Kanauj, and in 1194 it fell into the hands of Muhammad bin Sām. If the identification with Asī or Asnī be correct, this was the place whither Jai Chand had sent his treasure for safety, and at which the Musalmān conqueror received the allegiance of the Hindu princes. In 1321 Ghiyās-ud-dīn Tughlak sent his son, Zafar, with an army to crush the Rājputs here; but tradition says that, instead of fighting, a discussion on the merits of Hinduism and Islām took place, and the Rājput chief was vanquished and became a Musalmān. Zafar Khān assumed the governorship, and the name of the town was changed to Zafarābād. In 1359 Fīroz Shāh Tughlak passed through here and decided to found a new city. After the building of Jaunpur the older town decayed. Zafarābād, however, still contains many remains of great interest. The Masjid of Shaikh Baran, built in 1311 or 1321, from a Hindu or Buddhist temple, consists of a hall 18 feet high with nine bays from east to west and seven from north to south, and probably contained a façade resembling those at JAUNPUR. A considerable area covered by tombs is known as the 'Plain of the Martyrs,' who are said to have perished in the assaults on the forts. The forts of Rātāgarh and Asnī are now represented by extensive mounds, with traces of moats, and another mound is said to cover the ruins of Bijai Chand's great temple. Zafarābād is administered under Act XX of 1856, with an income of about Rs. 800. It was formerly noted for its manufacture of paper; but this has completely ceased, and the former workmen have now become masons, who go in considerable numbers as far as Calcutta and Rangoon to seek work. There are three schools, with 230 pupils.

[A. Führer, *The Sharqi Architecture of Jaunpur* (1889).]

[1] Elliot, *History of India*, vol. ii, p. 46.

Zafarwāl Tahsīl.—North-eastern *tahsīl* of Siālkot District, Punjab, lying between 32° 11′ and 32° 30′ N. and 74° 34′ and 75° 1′ E., with an area of 310 square miles. The population in 1901 was 178,887, compared with 190,970 in 1891. The head-quarters are at the town of ZAFARWĀL (population, 4,658), and it also contains 480 villages. The land revenue and cesses in 1903-4 amounted to Rs. 2,83,000. The surface of the *tahsīl* is fairly uniform, and the hill torrents, of which the Degh is the principal, are few in number. The soil is for the most part arid and inferior.

Zafarwāl Town.—Head-quarters of the *tahsīl* of the same name in Siālkot District, Punjab, situated in 32° 20′ N. and 74° 55′ E., on the east bank of the Degh torrent. Population (1901), 4,658. The place owes its name to Zafar Khān, a Bājwā Jat, by whom it was founded four centuries ago. It is of no commercial importance, but is a station of the American United Presbyterian Mission. The municipality was created in 1867. The income during the ten years ending 1902-3 averaged Rs. 6,600, and the expenditure Rs. 6,500. In 1903-4 the income was Rs. 6,900, chiefly from octroi; and the expenditure was Rs. 6,500. The town contains an Anglo-vernacular middle school maintained by the municipality, and a Government dispensary.

Zaidpur.—Town in the Nawābganj *tahsīl* of Bāra Bankī District, United Provinces, situated in 26° 49′ N. and 81° 20′ E., on a branch of the Lucknow-Fyzābād road. Population (1901), 9,700. The town is said to have been founded by a Saiyid in the fifteenth century, and is the home of a large Saiyid community. The inhabitants are noted for their turbulence, and religious troubles are not infrequent. Zaidpur is administered under Act XX of 1856, with an income of about Rs. 1,600. There is a flourishing trade in agricultural produce and hides, and cotton cloth is largely woven. The town contains a dispensary, and a school with 160 pupils.

Zalun Township.—Southernmost township of Henzada District, Lower Burma, lying between 17° 20′ and 17° 37′ N. and 95° 25′ and 95° 47′ E., with an area of 276 square miles. It lies across the Irrawaddy, and large areas are liable to annual inundation, especially on the eastern side, which is only partially embanked. The population increased from 58,719 in 1891 to 69,502 in 1901, distributed in one town, ZALUN (population, 6,642), the head-quarters, and 362 villages. There are very few natives of India; Burmans number about 78 per cent. and Karens 21 per cent. of the total. The area cultivated in 1903-4 was 124 square miles, paying Rs. 2,38,000 land revenue.

Zalun Town.—Head-quarters of the township of the same name in Henzada District, Lower Burma, situated in 17° 29′ N. and 95° 34′ E., about 16 miles south-east of Henzada, on the right bank of the Irra-

waddy. Population (1901), 6,642. It contains a courthouse, a hospital, quarters for civil and military police, and other buildings, and is administered by a municipal committee which was constituted in 1886. The income and expenditure of the municipal fund during the ten years ending 1901 averaged Rs. 12,700 and Rs. 11,700 respectively. In 1903–4 the income was Rs. 19,000, including Rs. 2,900 from the house tax, and Rs. 8,600 from dues on markets and slaughter-houses; and the expenditure was Rs. 17,000, the chief items being conservancy (Rs. 3,500), roads (Rs. 1,100), hospital (Rs. 1,800), and education (Rs. 900). There is an Anglo-vernacular school belonging to the American Baptist Mission, but no municipal school.

Zamānia Tahsīl.—Southern *tahsīl* of Ghāzīpur District, United Provinces, comprising the *parganas* of Zamānia and Mahaich, and lying south of the Ganges and north of the Karamnāsā, between 25° 19′ and 25° 36′ N. and 83° 15′ and 83° 52′ E., with an area of 381 square miles. Population fell from 246,930 in 1891 to 237,867 in 1901, the rate of decrease (4 per cent.) being the lowest in the District. There are 354 villages and two towns: BĀRA (population, 5,260), and ZAMĀNIA (5,252), the *tahsīl* head-quarters. The demand for land revenue in 1903–4 was Rs. 2,43,000, and for cesses Rs. 52,000. The density of population, 624 persons per square mile, is slightly below the District average. In the north is a large area of rich alluvial soil, which requires no irrigation and contains some exceptionally fertile fields where poppy is largely grown. Near the Karamnāsā black soil is found, in which likewise irrigation is not required. The area under cultivation in 1903–4 was 302 square miles, of which 53 were irrigated. The irrigated area lies chiefly in the west and centre of the *tahsīl*, and is supplied almost entirely by wells.

Zamānia Town.—Head-quarters of the *tahsīl* of the same name in Ghāzipur District, United Provinces, situated in 25° 23′ N. and 83° 34′ E., 2 miles north-east of Zamānia station on the East Indian Railway. Population (1901), 5,252. The town was founded in 1560 by Alī Kulī Khān, and named after his title of Khān Zamān. Two hundred years later it was burnt by Fazl Alī and remained deserted for some years. According to Hindu tradition, it derives its name from the Rishi Jamadagni. A massive pillar, about 20 feet high, stands on a heap of ruins south-east of Zamānia, but bears no inscription. Zamānia is administered under Act XX of 1856, with an income of about Rs. 1,100. It has some trade in sugar and rice. There are three schools with 170 pupils, of whom 20 are girls.

Zāri Gārkhadi.—Petty State in the DĀNGS, Bombay.

Zhob District.—District in the north-eastern corner of Baluchistān, lying between 30° 32′ and 32° 4′ N. and 67° 27′ and 70° 3′ E., with an area of 9,626 square miles. Afghānistān and the North-West Frontier

Province lie to the north and north-west; the eastern boundary is marked by the Sulaimān range; and Loralai and Quetta-Pishīn Districts border it on the south and west respectively. The greater part of the District is covered with hills; but it is intersected on the south by the great valley of the Zhob river, and on the north by the smaller valley of the Kundar and its tributaries. The principal hill ranges are the SULAIMĀN on the east and the TOBA-KĀKAR range on the north, the latter being generally known as Kākar Khorāsān; it forms the great grazing ground of the District and the summer quarters of many of the inhabitants of the Zhob valley. Both these ranges attain an altitude of nearly 11,000 feet above sea-level. On the south, a lower range separates the District from Loralai.

Physical aspects.

The valley of the ZHOB RIVER itself is an alluvial plain, extending from Chari Mehtarzai, the watershed between the Zhob and Pishīn valleys, in the form of a crescent to the Gomal river, and contracting considerably near its north-eastern extremity. Numerous small valleys skirt it on either side, the most important being Haidarzai and Ismailzai. The Kundar rises from the central and highest point of the Toba-Kākar range, and runs first eastward and then north-eastward till it reaches the Gomal river near Domandi. In the upper part of its course it traverses a narrow valley; but from the point where it commences to form the boundary between British territory and Afghānistān, its bed is confined and steep. Among the hills lie numerous minor valleys, affording room for some scant cultivation. Occasionally wide open plains occur, such as that of Girdao.

The stratified rocks of the District include a varied series extending from the Trias to the base of the pliocene. Intrusions of gabbro and serpentine, of Deccan trap age, and extensive accumulations of sub-recent and recent deposits also occur. The most interesting feature is the continuation of the Great Boundary Fault of the Himālayas, north of the Zhob valley. The serpentine intrusions contain valuable deposits of chrome-iron ore and some asbestos of marketable value.

No scientific information is available regarding the vegetation of Zhob. The principal trees found in the highlands are olive, pistachio, and edible pine. Tamarisk borders the beds of the streams, and acacia occurs in the lower hills. Southernwood (*Artemisia*) scrub abounds in the uplands, and *Haloxylon salicornicum* in the lower valleys.

Wolves and foxes are common. Mountain sheep and straight-horned *mārkhor* are found in the higher hills. Some wild hog are to be seen along the Zhob river. *Chikor* and *sīsī* are plentiful. Fishing is obtainable in the Zhob and Sāwar streams.

The climate is dry and, in the winter months, bracing. Dust-storms

occur in summer from July to September, accompanied by thunderstorms, rendering the climate of Lower Zhob somewhat enervating. On the other hand, Upper Zhob and the highlands possess excellent climatic conditions. The temperature varies with the height above sea-level; in Lower Zhob, the heat is unpleasant from May to September, but the western end of Upper Zhob is cool in summer and cold in winter. In many places the water-supply is brackish. The rainfall is scanty and variable, the annual average at Fort Sandeman being about 10 inches, but it is less in Upper Zhob. The summer rainfall is received in July and August; in winter, March is the rainiest month. At this time of year some snow falls over the greater part of the District.

History.

As the cradle of the Afghān race, Zhob possesses a peculiar historical interest. Hiuen Tsiang describes the Afghāns as living here in the seventh century, and hence they emerged to seek riches and even empire in India. In 1398 we read of an expedition led by Pīr Muhammad, grandson of Tīmūr Lang, against the Afghāns of the Sulaimān Mountains, which appears to have penetrated this District. The migration of the Yūsufzais from Zhob to Swāt has been recently traced. We can, however, catch only occasional glimpses of the ancient history of the country. In the middle of the eighteenth century Ahmad Shāh, Durrāni, conferred the title of Ruler of Zhob on Bekar Nika, the head of the Jogizai family of the Zhob Kākars; and this family continued to exercise authority over the Kākars until the British were first brought into contact with them. The most notable men at this time were Shāh Jahān, and his cousin and rival, Dost Muhammad. Though worsted in a fight at Baghao, near Sanjāwi, in 1879, Shāh Jahān continued to commit outrages in British territory; and a small military expedition was undertaken against the Zhob Kākars in 1884, upon which most of the headmen submitted. Shāh Jahān fled; but the Kākars continued to give trouble until, in 1888, Sir Robert Sandeman marched to Mīna Bāzār, after which, at the invitation of the chief of the Mando Khel, he visited Apozai, where the Mando Khel asked to be taken under British protection and offered to pay revenue. A similar request was preferred a little later by Shāh Jahān himself. The offer of the people was accepted, a Political Agent was appointed, and a small garrison was placed at Fort Sandeman in 1889. The Bori, Sanjāwi, and Bārkhān *tahsīls*, which had hitherto formed part of the Thal-Chotiāli District, were included in Zhob; but Sanjāwi was re-transferred to Thal-Chotiāli in 1891 and Bārkhān in 1892. All of them have been included in Loralai District since 1903.

Many old forts and mounds, the construction of which is attributed be the people to the Mughals, are scattered throughout the country,

but they have not been archaeologically examined. An interesting discovery of punch-marked coins, some of which possibly date so far back as 400 B.C., has been made in the Shirāni country.

Population.

The District possesses 245 villages. The only place of importance is FORT SANDEMAN TOWN. The population of the entire District was enumerated for the first time in 1901, and was found to number 69,718, or 7 persons per square mile. The following table gives statistics of area, &c., by *tahsīls* according to the Census of 1901:—

Tahsīl.	Area in square miles.	Number of		Population.	Population per square mile.
		Towns.	Villages.		
Kila Saifulla .	2,768	...	60	19,229	7
Hindubāgh .	3,275	...	76	15,777	5
Fort Sandeman .	3,583	1	109	34,712	11
District total	9,626	1	245	69,718	7

The indigenous inhabitants are all Afghāns, who numbered 63,000 in 1901. The Kākars constitute the principal tribe of the District, numbering 43,000; the majority (38,000) belong to the great clan known as Sanzar Khel. Other Afghān tribes are the Ghilzais (7,500), who are mostly Powinda Nāsirs and Sulaimān Khel, resorting to the District in the course of their annual migrations for purposes of trade and pasture; the Mando Khel (4,300); and the Shirānis (7,000). The Bargha, or upper Shirānis, are alone subject to the Zhob authorities, the Largha, or lower Shirānis, living within the limits of the Frontier Province. By religion the people are Muhammadans of the Sunni sect. They speak the southern dialect of Pashtū. The majority are cultivators, but a few live by flock-owning, and many supplement their means of livelihood by labour and engaging in transport. Some, especially the Bābars, annually visit the Chāgai hills and parts of Afghānistān to collect asafoetida. Ancestor-worship is much in vogue; and the tomb of Sanzar Nika, the progenitor of the Sanzar Khel, which lies 27 miles from Fort Sandeman, is held in great reverence. The Jogizais, too, are endowed with theocratic attributes in the eyes of their fellow tribesmen.

Agriculture.

The soil of the District is largely mixed with gravel, especially in the hill tracts. In Central Zhob it is alluvial and sometimes sandy. The Fort Sandeman *tahsīl* possesses a productive red clay. Land is generally allowed to lie fallow for two to four years after cultivation. Two harvests are obtained: the spring crop (*dobe*), sown from October to January and reaped in May and June; and the autumn crop (*mane*), sown in June and July and reaped in November and December. The principal harvest is in

spring, and the most important food-grain is wheat, which is estimated to cover about 63 per cent. of the area under crops. The autumn crop consists of maize, millets, and rice. Gardens are numerous in Upper Zhob, and are increasing in number; they contain mulberries, apricots, pomegranates, and grapes. Melons and lucerne are also grown. The cultivators are chiefly peasant proprietors and their holdings are minute. They are indifferent husbandmen, but British rule has resulted in a considerable extension of cultivation. The advances made to the people during the seven years ending 1904 amounted to Rs. 44,800 for land improvement and Rs. 29,800 as agricultural loans.

Unlike other parts of Baluchistān, the District possesses few good horses. The breed of bullocks is small; camels of good quality are numerous at certain times of the year. Sheep and goats are owned in large numbers. Considerable flocks and herds are brought into the District by Sulaimān Khel Ghilzais and other nomads.

It is estimated that about 74 per cent. of the area under cultivation is irrigated. The 'dry crop' area is probably capable of considerable extension. The sources of irrigation are springs, *kārez* or underground channels, and streams. Of the latter, the principal are the Zhob river, Saliāza, Sāwar, Rod Fakīrzai, and Kamchughai. Dams are thrown across their beds, and the water is led in open channels to the cultivable land. Some of these channels exhibit considerable ingenuity of construction, but they require constant repair.

Measures for forest conservancy have been taken since 1894 under the executive orders of the Political Agent. No areas have been 'reserved,' but the felling of green forest trees is prohibited throughout the District. The principal trees in order of frequency are olive, two kinds of pistachio, edible pine, and ash. Proposals for the 'reservation' of the pine and olive forests of Shīnghar, Kapīp, and other parts are under consideration. From 1894 to 1900 the forest revenue, chiefly on account of royalty on wood, averaged Rs. 2,600 per annum and the expenditure Rs. 953. In 1903-4 the revenue was Rs. 3,600 and the expenditure Rs. 1,300.

Traces of coal have been noticed in Central Zhob, and asbestos exists in the Hindubāgh *tahsīl*. Earth-salt is collected in Central Zhob from the Multani tracts, and also in Kākar Khorāsān by the Lawānas.

As might be expected in so backward a country, the manufactures are of the most primitive kind. Felts and felt coats are made by the women for home requirements. Woollen carpets and bags of various sorts are also turned out by weavers, who ply their profession from house to house; but there is no trade in these articles. The chief exports are wool and *ghī*, while imports include sugar, rice, pulses, metals, piece-

Trade and communications.

goods, leathern-ware, and salt. Trade is chiefly carried on with Dera Ismail Khān District in the Frontier Province. A small quantity of earth-salt is exported to Afghānistān.

The total length of partially metalled roads is 27¼ miles, and of unmetalled tracks 766 miles. The southern and north-eastern parts are well provided with means of communication, but not the north-western portions. Of the two main roads, the best runs from the Harnai railway station through Loralai to Fort Sandeman, a distance of 168 miles, the first 22 of which lie in Sibi and 76 in Loralai District; the other starts from the Khānai railway station and traverses the Zhob valley to Fort Sandeman, a distance of 168 miles, the first 45 of which lie in Quetta-Pishīn District. A road has been constructed through the Dhāna Sar Pass to Dera Ismail Khān, 115 miles in length, of which about 47½ lie in Zhob. A survey for a railway line from Khānai in Quetta-Pishīn to Dera Ismail Khān District through the Zhob valley was carried out in 1890-1.

Famine.

The succession of three dry years, which culminated in 1900-1, severely affected the District, and great numbers of cattle died. About Rs. 57,000 was spent on relief works in Central and Lower Zhob, and Rs. 3,825 was advanced for the purchase of seed-grain and bullocks. Grazing tax amounting to Rs. 18,800 was suspended. The Government revenue, which is taken in kind, decreased largely.

Administration.

The District is part of the Agency Territories, and forms the charge of a Political Agent. It is divided into two subdivisions, FORT SANDEMAN and UPPER ZHOB. An Assistant Political Agent holds charge of the Fort Sandeman subdivision, with an Extra-Assistant Commissioner to assist him. Another Extra-Assistant Commissioner is in charge of the Upper Zhob subdivision. Each of the three *tahsīls*—Fort Sandeman, Kila Saifulla, and Hindubāgh—has a *tahsīldār* and a *naib-tahsīldār*, with the exception of the first, which has two *naib-tahsīldārs*. All these officers exercise civil and criminal powers, and the Assistant Political Agent and Extra-Assistant Commissioners are empowered to hear appeals from *tahsīldārs* and *naib-tahsīldārs*. The Assistant Political Agent is also a Justice of the Peace. The Political Agent is the District and Sessions Judge. The number of cognizable cases reported in 1903 was ten, convictions being obtained in six cases. Only one case of murder occurred. The number of criminal and civil cases disposed of by the courts in 1903-4 was 38 and 253 respectively. As a rule, however, cases in which the people of the country are concerned are referred to councils of elders (*jirgas*) for an award according to tribal custom under the Frontier Crimes Regulation. The number of cases thus disposed of in 1903-4 was 930, which included 10 murder cases and 11 of adultery.

In pre-British times the tribes paid no land revenue, except an occasional sheep or a felt to their chief. Since the British occupation revenue has been realized at a uniform rate of one-sixth of the produce, the Government share being determined either by the appraisement of standing crops or by actual division. In some villages which have permanent sources of irrigation, summary cash assessments, based on the realizations of the preceding three or five years, have been introduced as a temporary measure. A survey and record-of-rights have been prepared for the Upper Zhob subdivision. Grazing tax is also levied, and forms a large item in the total revenue. A special arrangement was made in 1897–8 with the Punjab Government (now the Frontier Province) for the collection of grazing tax from the Sulaimān Khel Ghilzais, who pasture their flocks in both Zhob and the Derajāt, by which three-fifths of the net receipts were paid to the latter Government up to 1902. The receipts from land revenue, including the total grazing tax of the District and royalty levied on firewood in the Fort Sandeman *tahsīl*, amounted to 1·1 lakhs in 1903–4, of which Rs. 2,513 was realized by summary assessments. The grazing tax produced Rs. 31,000. The total revenue from all sources was 1·3 lakhs. The Jogizais, to whom reference has already been made, and other leading families enjoy revenue-free grants, grain allowances, and exemption from grazing tax. The total annual value of these concessions is estimated at Rs. 8,800.

The regular troops at Fort Sandeman furnish detachments to the outposts at Khān Muhammad Kot in Loralai District, and to Mīr Alī Khel, Mānikwā, and Wazīr Bāgh in Zhob. The detachments at Hindubāgh and Kila Saifulla are furnished from Loralai. The Zhob Levy Corps guards a long line of frontier from the Gomal to Toba in sixteen outposts. It consists of six companies of infantry, aggregating 632 men, and four squadrons of cavalry of 423 men, under three European officers, with its head-quarters at Fort Sandeman.

An Honorary Assistant District Superintendent held charge of the police, temporarily, in 1903–4. It is proposed that a permanent officer should be appointed. In 1904 the force numbered 199 men, of whom 8 were inspectors and deputy-inspectors, and 32 were horsemen. They are distributed in five stations. Much of the work which ordinarily falls on the police in India is performed by local levies. They numbered 304, including 179 horsemen, of whom 50 men were employed on postal service. Three subsidiary jails can accommodate 106 male and 19 female prisoners. Ordinarily, prisoners whose sentences do not exceed six months are retained in the local jails, while long-term prisoners are sent to Quetta and Shikārpur.

The District possessed four primary schools in 1904, including one girls' school. The total number of pupils was seventy-four, including

twenty-four girls, and the cost was Rs. 1,688, of which Rs. 970 was paid from general revenues, Rs. 324 realized from fees and contributions, and the balance paid from Local funds. The people care little for education, though *mullās* impart some elementary instruction in mosques. The number of pupils receiving instruction in such schools is estimated at about 350.

There are four dispensaries in the District, including one for females at Fort Sandeman, which is aided by the Lady Dufferin Fund. They had accommodation for thirty-six in-patients in 1903. The average daily attendance of such patients was 18, and the total attendance of all patients was 30,432. The expenditure amounted to Rs. 9,400, the greater part of which was provided from Provincial revenues. Malarial fever is the most prevalent disease, followed by diseases of the digestive organs. Owing to the cold, rheumatism is common. Resort is had to inoculation by the people living at a distance from the *tahsīl* head-quarters. Vaccination is gradually making headway, but is popular only when outbreaks of small-pox occur. The number of persons successfully vaccinated in 1903 was 43 per thousand.

[*Administration Report of the Baluchistān Agency for* 1890–1.]

Zhob, Upper.—Subdivision of Zhob District, Baluchistān. *See* UPPER ZHOB.

Zhob River.—River in Baluchistān, rising on the east of Pishīn (30° 45′ N., 67° 33′ E.), and having a total length to its junction with the Gomal river of about 240 miles. Its chief affluents are the Toi or Kandīl river and the Sretoi from the north-west and west, and the Sāwar from the east. From the north it receives the drainage of the Toba-Kākar range, and from the south that of the hills dividing the Zhob valley from the catchment area of the Nāri river. The permanent perennial stream first appears at about 45 miles from the source; but, owing to the height of the scarped banks, the water cannot be utilized for irrigation till near Samakhwāl. Below this it is raised by artificial dams in several places.

Ziārat.—Sanitarium and Provincial summer head-quarters of the Baluchistān Agency, situated in 30° 23′ N. and 67° 51′ E., at an elevation of 8,050 feet above the sea. It lies in the Shāhrig *tahsīl* of Sibi District, and is the residence of the Political Agent from May to October. Ziārat is most easily reached from Kach station on the North-Western Railway by a cart-road (32¾ miles). The local name is Gwashki, which was changed in 1886 to Ziārat, after the neighbouring shrine of Mīan Abdul Hakīm. It was first visited and selected as a sanitarium in 1883. The Residency was built in 1890–1. The climate during the short summer is delightful, and the air is bracing. A piped water-supply was provided in 1898–9 at a cost of Rs. 38,000. The hill-sides are covered with juniper, and there are

many lovely walks through the wooded glades. Huge gorges and defiles constitute a feature of the scenery. Besides the Residency, the remaining edifices consist of houses for officials and other Government buildings. Sanitation is provided by the Ziārat improvement fund, a branch of the Shāhrig bazar fund. The income in 1903-4 amounted to Rs. 3,800 and the expenditure to Rs. 2,689. A summer camp for the European troops stationed at Quetta was first formed at Ziārat in 1885; but the experiment was afterwards abandoned until 1903, since which year the camp has again been established. It is located on a spur of the Batsarg hill.

Zīgon Subdivision.—Northern subdivision of Tharrawaddy District, Lower Burma, comprising the MONYO, GYOBINGAUK, and TAPUN townships, with head-quarters at Zīgon.

Zīgon Town.—Head-quarters of the subdivision of the same name in Tharrawaddy District, Lower Burma, situated in 18° 22′ N. and 95° 39′ E., in the north of the Gyobingauk township, on the Rangoon-Prome railway, 116 miles from Rangoon. Population (1901), 2,074. Local affairs are managed by a town committee. In 1903-4 the income of the town fund amounted to Rs. 20,000, and the expenditure to Rs. 17,200.

Zingkaling Hkamti State *(Zingalein Kanti*, or *Kantigale)*.—A Shan State lying to the south of the Hukawng valley in the extreme north of the Upper Chindwin District, Upper Burma, and subject to the control of the Deputy-Commissioner of that District. It is situated on each side of the Chindwin, between 25° 30′ and 26° 5′ N. and 95° 4′ and 96° 10′ E., but is cut in two by a strip of the Homalin township some 8 to 15 miles wide, running east and west across it. Its area is 983 square miles. The villages are nearly all situated on the river bank, though a few Kachin hamlets lie in the interior on the road to Haungpa on the Uyu river. The inhabitants are mostly Shans, who are said to have come from Hkamti Long in olden days, displacing other Shans who had previously dispossessed the original Kachin inhabitants of their lands. When annexed by the British, the State was suffering from the result of raids by the Kachins and was practically in their hands. It then contained only four or five villages, but has since increased and prospered. There are still five Kachin (Theinbaw) villages in the State, and a few Chins on the west of the Chindwin who ignore the authority of the Sawbwa. From eight Shan villages in 1889 the number had increased by 1901 to twenty-four. The population, excluding the wilder Kachin and Chin inhabitants, whom it was thought inadvisable to attempt to enumerate, was 2,048 in 1901. Of these, about 1,500 were Shans and nearly 400 Burmans. The revenue, which amounts to only Rs. 2,300, is derived from *thathameda*, levied at the rate of Rs. 5 per house, and certain tolls and dues. The tribute to